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The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

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After the Hunt

What Price Antivivisection?

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HYGEIA
THE HEALTH MAGAZINE

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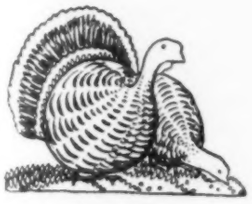

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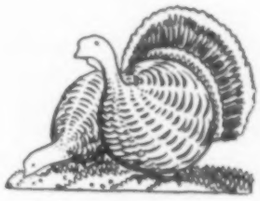

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DR. RICHARD KOVACS describes the effects of heat, light and motion, "Physical Forces in Healing." . . . MISS E. M. GERAGHTY, food consultant, describes some of the less popularly known vegetables.

For the youngest readers, SUSIE W. MCGOWAN contributes a song and story, "Wait for the Green Light," and ALIDA LEETO tells of a Russian child and her two unusual playmates, "Mishka and Bishka."

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The Study of Medicine

DURING September and October, medical schools of the United States received a new influx of young men, embarking on the study of medicine. They had, in most instances, successfully completed a good high school education and at least two years of study in a recognized college or university. Many of them had had three or four years of college and had been the recipients of a bachelor's degree; others had continued their studies, receiving masters' degrees for research; indeed, a few had the degree of doctor of philosophy, representing long preparation and the development of a thesis in some scientific subject. It may safely be said, therefore, that the young men who undertake the study of medicine represent as well selected and as fully prepared a group as can be found in any other profession or human endeavor.

These young men will now spend at least four years in acquiring a medical education. This will include instruction in anatomy, physiology, pathology, neurology, clinical medicine and surgery, pharmacology and therapeutics, obstetrics and time spent on many other basic medical branches and practical specialities. They will be compelled to know the form and the construction of the human body, the manner of function of its various tissues and organs, the changes that take place in these tissues as the body grows older and those that develop in disease. They will be compelled to witness and participate in the conduct of a considerable number of cases of childbirth. They will walk the wards of the hospitals with practicing physicians. They will serve in dispensaries, helping to diagnose and treat the diseases afflicting thousands of people who offer themselves for medical teaching as a means of paying a portion of the cost of their medical care. Thereafter these young men will spend anywhere from one to two years as interns in hospitals, taking care of sick people under the direction of attending and consulting physicians; and in the hospitals they will learn at first hand the important measures in the handling of disease.

What will these young men then look forward to? Many will enter the government services. Some will go into industrial medicine; others will become teachers in the medical schools. Some will devote their entire lives to seclusion in laboratories seeking to unravel still further the hidden mysteries of disease. The vast majority, however, will go forth to practice medicine not only as a means for securing a livelihood—and not an exceptional livelihood at that—but also as a means of bringing mankind health and happiness.

The profession of medicine offers few magnificent rewards to its devotees. It promises arduous days and wearisome nights. It forecasts a burden of responsibility and care. It includes constant precipitous separation from families and friends and not infrequently a threat to the health and safety of loved ones. It offers exposure to many menaces and, because of the daily drive, the responsibility and the physical hazards, a life expectancy somewhat less than that of mankind in general. In return, it has given to the physician, in the past, the reverence, the respect and the love of those who consulted him. He has had the satisfaction of seeing the children whom he brings into the world grow to successful manhood and happy womanhood. He has helped them to realize hopes and cherished ambitions. He has been the sympathetic inspiration of many who have fallen by the wayside in the struggle for existence or in the battle to achieve the heights. His financial returns have not been great, hardly sufficient in the vast majority of cases to purchase those things which, by many Americans, are no longer considered even the bare necessities of life.

The people of this country should realize, therefore, that they owe much to their physicians of today and to the physicians of the future. They owe them the opportunity to practice medicine as it has been practiced in the past—as a personal, humane, sympathetic occupation. They owe them the right to continued status as practitioners of a profession rather than as employees of impersonal government or exploiting businesses. They owe them recognition of the years of study and the vast sums that are spent in preparing physicians to give service, and they owe adequate recompense for the service that is rendered.

The young men who have entered the medical schools are a chosen group. They have selected for themselves a vocation of service. The educators in medicine have selected them from among thousands as most likely to survive the difficulties of medical education and to give at the end of their education the type of professional service that the community has a right to expect. In the last quarter century, medical education has gone forward to greater and greater heights. There is reason to believe that the people of this country will learn to appreciate what the high standards and ideals of modern medical education mean for them. The people must protect the physician of the future against agitation that would lower medical standards of education and depreciate the quality of professional service.

"When the baby is sick, Mozart stops his music, Phidias drops his chisel, and the emperor treads softly."

Why Choose to Study Medicine?

By
H. G. BULL

THE TIME comes to all thinking boys and girls, either at the end of high school or early in college, when they have to make some decision as to what they are going to do next, and if one can believe the statement so often made to doctors by their friends and patients one is forced to believe that at one time or another nearly every one "thinks he would like to be a doctor." However, there are so many interesting things to study and to be that it is indeed hard to settle on spending one's life at any particular one of them without first finding out a good deal about it. The reasons why one gave up the idea of being a doctor and another carried it through would be interesting to hear. It is because I have so often been told this and because sometimes a puzzled lad has come to me for advice on this subject, that I have undertaken briefly to set forth my ideas, that all who run may read.

In a general way one knows from childhood what it means to be a doctor, a lawyer, a minister or a farmer; the greatest factor in deciding which to be is whether one really wants to be any one of them; perhaps there is more appeal in business, engineering or aviation. Certainly, unless one is sure one wants to be a doctor, one should never undertake to study medicine, for I cannot imagine any business or profession that would be more difficult to practice, if it were uncongenial, than medicine. There are pros and cons to every question, and it may be helpful to look into these.

Probably the underlying factor that makes medicine an attractive profession has its roots in selfishness: every one likes to feel that he is of some importance in the world and that other people, to a greater or less degree, respect him, depend on him and have some measure of affection for him. This is only natural. Great satisfaction is to be had in helping people through periods of illness with all the related physical and mental suffering. The fear of death is hardly more prevalent than the fear of pain, and anything that helps to mitigate this feeling is greatly appreciated.

To my mind the feature of practice that is most pleasant of all is the contact with people.

Unless one likes people as such, the career of medicine is the wrong one to choose. The relation with people in their homes, from the babies to the great-grandmothers and from the lord of the manor to the scullery maid, is so intimate that unless one was so constituted as to find it interesting it would not be endurable. No potential hermit should be a doctor. Illness is a great leveler; of illness it might be said, "It has put down the mighty from their seat and has exalted them of low degree." Again, to paraphrase an almost forgotten poem, one may be sure that when the baby is sick, Mozart stops his music, Phidias drops his chisel, and the emperor treads softly.

I have heard the misstatement made that doctors see the seamy side of life and get to know all about the unpleasant traits of their patients; I think that the exact opposite is the truth. Every doctor has seen the most insignificant persons under the trial of sickness and trouble assume the proportions of giants in endurance, courage and stability; there is nothing equal to illness in making people forget little grudges and misunderstandings. In general it can be said with assurance that a doctor sees the best qualities in people, and often he sees a side of their character that they usually hide because of shyness or because of a dread of being considered soft or sentimental.

The objection is raised in regard to medicine as a study that it takes too long. No one will deny that it is a long course, and yet about the same length of time is required for a Ph.D. degree, which is held by practically all university professors; and the same length of time is necessary in preparing to become a lawyer in most of the better schools. Seven or eight years of study is a long time, and beyond that is at least a year or two of residence in hospitals. Yet I question whether a man would be old enough to assume the responsibilities of practice, even were his study completed, much before the late twenties. The only remedy is to hustle through the grades and prep school just as fast as possible and enter college early! The greatest objection to this prolonged period of preparation is that, unless the man is blessed with a private source of income, he must of necessity put off getting married and having a family until so late that he is not likely ever to dandle his great-grandchildren on his knee "to hear his great watch tick," and that, I am sure, is an ambition every one cherishes.

The objection is raised that a doctor has no free time, that he is always on call. This is true to a degree, but many doctors are to be found at the club or on the golf links. Then there is this night business; never having any assurance of an undisturbed rest seems to many people to be a terrible annoyance. It is not so pleasant sometimes, but with careful anticipation of a patient's needs much night work can be avoided. The emergencies that really merit night work can be counted on the fingers of one hand; but for all these unattractive features of the work there are compensations.

As to the living to be made in the practice of medicine, this varies, as it does in all callings, with the man himself. Aside from the big element of "getting the lucky breaks"—which enters into every calling under the blue canopy—whether or not one gets along in the medical profession depends on just three things: medical knowledge, hard, steady work and honest dealing.

In these respects, medicine is no different from any other line of work. If one is ambitious to become unusually wealthy, to found a fortune, one is more likely to fulfil this ambition by entering some other line. Medicine, however, always has been, is and always will be a greatly respected profession, and most of us feel that a respected position in a community, together with an income adequate to provide the necessities and some of the luxuries of life, should be enough for any one.

Thus far I have spoken as if the only course for medical graduates to follow was practice; this, of course, is not the case, for there is an increasingly large number of side-lines. Many physicians never intend to practice but plan instead to become research workers. This is an excellent idea, for it is difficult to be engaged in private practice and at the same time to find enough consecutive leisure to work out problems relating to cancer, diabetes or other subjects. Full-time teaching is another opening that the medical colleges are making more frequently available, and of course there are many institutional positions, such as those of pathologist, radiologist, and full-time resident in hospitals. Public health work offers attractive positions to those who for one reason or another do not care to venture out on their own; in fact, there is an increasingly wide variety of openings for the graduates in medicine who do not wish to engage in private practice.

Such sure and steady advances are being made in all branches of medicine that the subject becomes more interesting all the time. One has only to read some of the medical books of a hundred years ago to realize what tremendous strides have been taken; there is every reason to believe that the next hundred years will see even greater progress, while the century following will doubtless show that the two previous ones were merely in their infancy. My only regret is that I do not expect to be on hand to study medicine when all these miracles shall have become commonplace. Perhaps it is just as well, for the enlightened medical men of the year 2200 A.D. will doubtless make many a "wisecrack" about the things that in our own day are the last word in medicine and surgery. And I should not like that at all!

YOU—Before Your Baby Comes

By George S. Stevenson

THE MENTAL aspects of pregnancy are only to a small degree a part of that event alone. For the most part they grow out of the attitudes and experiences of the years of your childhood and adolescence, the events of your married life and the experiences of previous pregnancies. However, pregnancy just as anything else that brings added physical and family stresses is apt to bring out and exaggerate attitudes and personal characteristics that otherwise might remain hidden. It is well, therefore, to discount fears, discouragements and suspicions that may overtake you and to have such a good relationship with your doctor that you can tell him about these things as well as about your physical problems.

While mental characteristics are rather deeply rooted and change as a rule but slowly, you can do a great deal to avoid dark days by having a clearer understanding of some things that are apt to be a source of worry. Your ease of mind is important not only for your own comfort and the harmony of your family but because it is likely to influence your relationship with your baby when he comes; in addition your happiness during future pregnancies is apt to be colored by what happens during this one.

If this pregnancy has been a welcome event, you are one step ahead in the game. The chief thing is not to let your craving for a baby overwhelm your judgment, particularly if you have waited a long time for this pregnancy to begin. A mother whose attention is entirely centered on her child is apt not to be the best mother, and this centering and overprotection may even start long before the baby comes. Not only is this attitude bad for the baby, but if there are other children, they are liable to feel "left out," and a spark of future trouble may thus begin. Also, you want your husband to be as interested in the baby as you are. Do not let him feel that at this point he is merely a source of material provision. In other words, maintain as broad interests as possible and as much as you can of your normal family place.

If this pregnancy is unwelcome, you have certain reconciliations to make. It is, to begin with, quite legitimate that you should have decided whether or not this was the

time for a baby to be started on his way. You should have no feeling of guilt about that. There are two precautions, however, to keep in mind in this instance; first, that you do not take out on the baby your disappointment at becoming pregnant and treat him as an intruder and, second, that your regret at your unwelcome condition does not make you overdo in your attempt to make up and thus start an overprotective attitude toward the coming baby. This pregnancy may raise some real problems, financial or otherwise, and you may feel that you just have to blame some one or something for it. Talk these things over with your doctor and get the help of some one who encounters numerous cases like yours and whose detached thinking will be clearer.

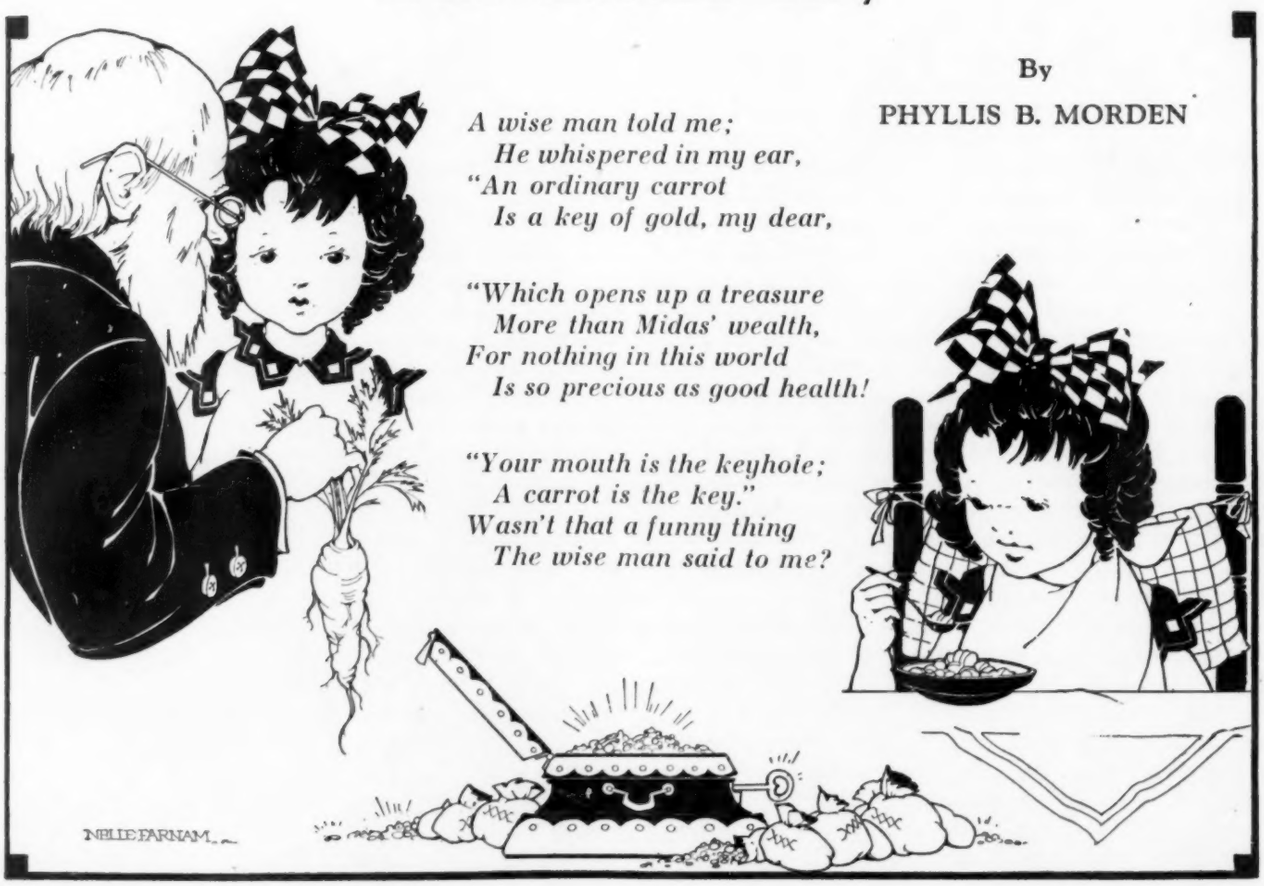
Every prospective mother wonders what her baby will be like; "curly hair" and "dimples" represent the brighter side of her daydreams. At the same time she knows that unhappy things may happen to her baby, and she scans her past to try to interpret the future. Things she did in the past, in childhood perhaps—things she has suspected may influence her health—loom up to threaten her. Guilt is especially liable to be associated with regretted experiences in her sex life, and "will my baby be normal" becomes a bogy to many a mother who is ignorant of the protections that nature has erected for the baby against the influence of even big things to say nothing of her little "sins." The best way to quiet these torments is to talk about them, not over the back fence, but in the doctor's office.

Back fence gossip has made many a prospective mother miserable, filling her with a dread of the "signs," which are spoken of with a hush and a long face, and the "markings," which have no more truth to them than fairy tales. Remember that your neighbors get a great satisfaction out of "knowing" these "deeper secrets" and of impressing you with their "wisdom." Let them have their thrill if you want to be generous, but do not be miserable because of them. Much the same may be said for heredity. While certain clear cases of inherited troubles are known, most of the claims are poorly supported. Do not let the imaginative and uncritical be your guide in such matters. Take your questions up with your doctor whose scientific approach alone is the safe one.

The Golden Key

By

PHYLLIS B. MORDEN



A wise man told me;
He whispered in my ear,
"An ordinary carrot
Is a key of gold, my dear,

"Which opens up a treasure
More than Midas' wealth,
For nothing in this world
Is so precious as good health!

"Your mouth is the keyhole;
A carrot is the key."
Wasn't that a funny thing
The wise man said to me?

How Science Solves Crime

X. *Blood Will Tell*

By
CALVIN GODDARD

MOST CRIMES of violence are attended by the spilling of blood. Hence the study of blood stains, as they figure in homicides and aggravated assaults, dates back to the dawn of civilization. Of comparatively recent development, however, are scientifically accurate methods for ascertaining whether or not a given stain was made by blood, whether or not that blood was of human origin and, if human, whether or not it could have come from the victim or his assailant, or possibly from still another person.

The determination of whether a given stain contains dried blood may be carried out by various methods. Probably the oldest of these is that introduced in 1861 by Van Deen and later modified by Taylor. This method consists of taking up some of the substance to be examined on a bit of white blotting paper moistened with distilled water. To the damp blotter are added first a few drops of tincture of guaiac and then a few more of ozonized oil of turpentine. If blood is present, a blue color develops in the area so treated.

However, though this maneuver is simple and rapid, there are a dozen other substances besides blood which will give the same reaction. Hence the guaiac test, as this method is termed, has largely been replaced by another, the so-called benzidine test of Adler. This test is quite sensitive, blood solutions in a dilution as high as 1: 200,000 producing a characteristic and intense prussian blue color. The reagents used in this instance are saturated solutions of benzidine in acetic acid, and hydrogen peroxide. If the unknown material is moistened with pyridine before the benzidine-peroxide mixture is added, the reaction is accelerated. In the case of fresh stains the color develops almost instantaneously—always within five seconds. Even old stains will react within this period if they are moistened with pyridine. Indeed, an instance is on record in which a stain preserved for eighteen years gave the characteristic color immediately. Even blood that has been boiled reacts without delay, as do blood stains on rusty iron. While certain other substances, such as soil and manure, give the same reaction, their presence may ordinarily be ruled out because of the greater length of time required for development.

Still a third color test is that of Meyer, in which phenolphthalein is the principal reagent employed and which has become known as the phenolphthalein test. The color produced in this instance is red. This test is extremely sensitive, being positive when blood is present to the extent of but 1 part in 10 million. It is successful when the blood has undergone putrefaction and even when the objects on which it exists have been carefully washed with water, soap or bleaching solutions. This fact is most important, as murderers often give bloody articles of clothing a cursory washing, thinking that when the stains have faded away they are safe.

In one such instance which occurred recently, the culprit had washed his heavy overcoat in a small stream flowing near the scene of his crime. No blood stains were visible on it, but when various portions of the garment were remoistened and wrung out, and the resultant fluids concentrated by evaporation—a process which of course required much time and effort—the solutions secured from its front and lower portions yielded decidedly positive reactions.

Similarly, a murderer, desiring to remove blood traces quickly from his hands, may reach into a pocket, withdraw his handkerchief and use it to efface the telltale spots, destroying it later. He fails to realize, however, that some of the blood has adhered to the pocket lining and this, if tested, may readily prove his downfall. In the same way, tiny blood spots beneath his finger nails, in the shank of a knife or in the mechanism of a firearm escape his attention and lead to his undoing.

Unfortunately, the phenolphthalein test may be positive in the presence of certain substances other than blood, especially in the presence of various copper salts. Hence all the color reactions may be used only as preliminary tests, indicating conclusively, when negative, that blood is absent, but failing, when positive, to prove its presence beyond all doubt. Therefore, if the color tests have indicated that one is deal-

ing with blood, certain additional steps must be undertaken. These procedures include microscopic examinations for the presence of blood corpuscles, microchemical tests resulting in the production of certain characteristic crystals (the hemin test), and spectroscopic studies to reveal the presence of the absorption spectrum of some form of hemoglobin, the red coloring matter present in blood corpuscles.

Microscopic examinations of dried blood are usually unsatisfactory, for the corpuscles undergo such deformation in the course of drying and remoistening for study that little can be told as to their original size and shape. If fresh blood is available, however, which unfortunately is rarely the case, the microscope will be most useful. This is because the red corpuscles of man are larger than those of most domesticated animals save the dog and, being round and without nuclei, differ from those of birds, fishes, reptiles and amphibious mammals, which are oval and nucleated. Mammalian red blood cells in general resemble those of human beings in shape and absence of nuclei, the only exceptions being in the camel and certain other closely related species with oval but nonnucleated cells.

If one is lucky enough to have fresh blood with which to deal and the corpuscles present are found to be round and not oval, measurement of their diameters will come close to establishing whether the blood is of human origin, for the figures will vary according to its source; this is shown in the following classification, in which the diameters given represent thousandths of a millimeter: man, 7.5; dog, 7.3; rabbit, 6.9; cat, 6.5; goat, 4.1.

Is the Stain Made by Blood?

Having completed the color and microscopic tests, when the microscopic tests are possible, one can go yet further and undertake microchemical studies, which involve heating some of the dried stain on a microscope slide in the presence of glacial acetic acid to which a trace of common salt has been added. When blood is present, characteristic crystals of hemin are deposited on cooling. These are dark brown, narrow, long and thin and usually appear crossed in pairs like an *X* or in star shaped crystals. Unfortunately, long prior exposure of the stain to the air, putrefaction, or contact with rust produces negative results even though blood is present, but when the true hemin crystals are found, the presence of blood is assured.

If the color reactions are positive but the hemin test is negative, there is another weapon at one's command in the form of the microspectroscope. Through its use, one can locate the presence of certain absorption bands in the spectrum which are characteristically present when the unknown stain contains hemoglobin or some of its derivatives. Here again, the results may be uncertain, since various dyes give absorption spectra resembling those of blood. If proper control tests are made, however, no confusion will arise.

It will be seen that all the tests thus far described, with the exception of the microscopic study of the corpuscles, which is rarely feasible, are concerned with one question: Is the stain made by blood? Provided the indications are positive, how is one to ascertain whether or not the blood is that of a human being?

This problem is answered by the application of the precipitin test discovered by Uhlenhuth in 1901. The reaction is made possible by the repeated injection into a living animal of minute amounts of sterile human or other blood serum administered at intervals of several days. The serum of the animal so treated acquires the property of precipitating, or forming a cloudy suspension, in blood serum from any animal of the kind from which serum for the injections was secured. Thus, if one injects human serum into a rabbit and later adds serum from that rabbit to human blood serum from any source whatever, the human blood serum will become cloudy. To apply this test, one can dissolve the dried stain in physiologic (0.9 per cent) solution of sodium chloride and add to it some of the sensitized rabbit serum. If the stain was made by human blood, a cloudiness will follow. The reaction is positive in dilutions of human serum as high as 1 part in 20,000 parts. No other blood present in the stain, except possibly that of some of the anthropoid apes, can produce this reaction, and the possibility of contamination by ape's blood can readily be eliminated. This test is therefore specific and irrefutable, and it is accepted as such in courts of law practically throughout the civilized world. But the establishment of the fact that a stain consists of human blood may not be sufficient to close the case. Thus, an individual suspected of murder who shows blood stains on his trousers may claim that these are the result of a serious nosebleed which he underwent some time previously.

Blood Is Classified in Four Groups

Can one prove that the blood is his victim's and not his own? Sometimes yes, sometimes no. The blood of all human beings has been shown to fall into one of four general groups, subject to minor and infrequent deviations within groups. These have been variously designated as groups I, II, III and IV; AB, A, B and O. The lettered designations are those now commonly in use. Simple tests have been devised whereby it is possible readily to determine into which group the blood of a given individual falls.

Applying these tests, if the suspect's blood is of the same grouping as that possessed by the stains on his trousers, and that of the deceased falls also into the same category, the investigator is stalemated. The stains may have come from the suspect or from the victim. But if the suspect's blood is, for example, of group A, that of the victim of group B, and the stains on the trousers from the same blood group as that of the victim (B), the suspect has a great deal to account for.

Blood Tests in Determination of Paternity

Blood grouping tests have lately been applied to the interesting problem of determining paternity, when this is the subject of question. Here again, there is but a certain percentage of cases in which the tests yield positive conclusions, but this is, nevertheless, a welcome advance over the days when there was no certain test applicable in any such case. The following conclusions are drawn from comprehensive experiments:

1. Unions of persons whose blood falls in group O with others of group O result in group O children.
2. Unions of persons whose blood falls in group A with others of group A result in group A or O children.
3. Unions of persons whose blood falls in group B with others of group B result in group B or O children.
4. Unions of persons whose blood falls in group O with others of group A result in group O or A children.
5. Unions of persons whose blood falls in group O with others of group B result in group O or B children.

Obviously, in the foregoing instances, a child cannot be the offspring of the adults tested if:

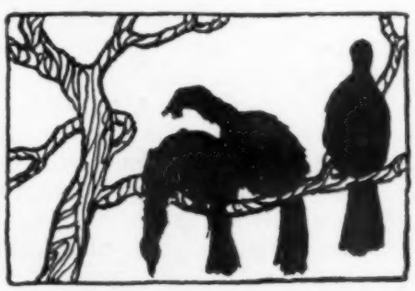
In case 1, his blood belongs to group A, B or AB.

In case 2, his blood belongs to group B or AB.

In case 3, his blood belongs to group A or AB.

In case 4, his blood belongs to group B or AB.

In case 5, his blood belongs to group A or AB.



In the accompanying tabulation, the possibilities are stated in a different manner:

Parental Blood Determinations

I If children exhibit	II Parents could have been	III Parents could not have been
Group O	Any combination of groups	
Group A	AB & AB; AB & A; AB & B; AB & O; A & A; A & B; A & O.	B & O; O & O; B & B.
Group B	AB & AB; AB & A; AB & B; AB & O; A & B; B & B; B & O.	A & A; A & O; O & O.
Group AB	AB & AB; AB & A; AB & B; AB & O; A & B.	A & O; B & O; O & O; B & B.

It is evident from a study of this tabulation that the chances of proving nonpaternity in a given case when this is at question are not high, averaging, as a matter of fact, but once in seven instances. In other words, in six cases out of seven, all one can say is, "This man may or may not have been the father of this child." But in the seventh, when the tests indicate any of the combinations listed in column III of the table, the investigator can declare with positive assurance, "He could not have been the father of this child."

Blood studies reveal other things that may be helpful in criminal and medicolegal investigations. Cases of carbon monoxide poisoning are an example. As is well known, automobile exhaust fumes as well as illuminating gas contain a large percentage of this deadly substance, and deaths arising from its inhalation are not infrequent. Instances may occur in which death has followed carbon monoxide poisoning but in which the source of the gas has been removed prior to the discovery of the body. In such cases the presence of carbon monoxide in the blood of the victim may readily be demonstrated by the simple maneuver of diluting a specimen of the suspected blood together with one of normal blood in the proportion of about 1 part to 100 parts of water. On inspection the normal blood solution appears yellow, while that containing carbon monoxide is a pronounced pink!

Other Problems Solved by Blood Tests

The Scientific Crime Detection Laboratory of Northwestern University is frequently called on to conduct investigations in criminal cases involving the application of the various tests that have been enumerated. Other problems on which its staff members have undertaken studies include the determination of the angle and distance of fall of blood droplets which have resulted in stains on various substances. Problems involving this point may sometimes, when solved, supply the missing link in a chain of circumstantial evidence. As a rule, the observations have been helpful, sometimes even proving the key point. In one instance, however, they availed nothing. The precipitin test revealed human blood on the wooden shaft of a hammer found in the possession of a young man suspected of murder. The case against the suspect appeared complete until it developed that the coroner and the coroner's physician, having been curious to see whether the hammer could make a depression like the one in the head of the deceased, had given him a whack with it on the "good" side of his head. As the blood on the shaft might have been acquired during these experiments, the jury freed the suspect!

AFTER THE HUNT

News for Nimrods and Waltonians

How to Cook the Catch

"A bird in the hand is worth two in the bush."

By ROYAL H. STONE

THE THRILL of the hunt is in bagging the game, but the satisfaction of a well prepared plate of wild game is almost equally enjoyable. A real hunter does not take more game than he can save for consumption. Since the federal government and various sportsmen's clubs have taken a hand in conservation and replenishing of the game supply, one has now a much better chance at something for the grill, roaster or frying pan.

For whetting a man's appetite, there is nothing equal to the long hike and the frosty hours in a blind. I do not presume that a discussion of the subject of cooking game can be as thrilling as is the sensation of hovering in a blind while a flock of mallards or teal wing their way in and harken to the call of the decoys.

The fragrance and the sizzling sounds that come from the camp-fire as the game is being prepared for the table are satisfying to the camp chef, but the joy of sitting down to a well prepared plate is the sublime caption of the day. Some hunters prefer to have their game ripened for several days, but a fresh fowl or venison steak can be made so appetizing and delicious that one is prone to overeat. Sitting around the camp-fire after the evening meal, old-timers recall the swans and geese over the swamps and marshes, and question whether, with the present oversupply of farm produce, these were not more valuable in the habitats that Nature provided for them than they are since man "reclaimed" them. As the fire flares and the embers die down, many are the previous experiences on lakes, marshes and woods that are retold and relived by the members of the hunting party.

In the woods in which grouse and prairie chicken slip slyly through the underbrush, and to the north where moose, deer and bear await the hunter, one can dream contentedly by the open fire after a hard day at work and play. Some hunters claim that, although bears are supposed to hibernate in winter, hibernation really begins at the opening of the season, and that more deer can be seen while one is motoring through the hills than when one is tramping through them, even with a well trained dog. One is more likely to be called on to cook squirrel, pheasant and the common cottontail than any of the so-called big game, although elk, moose or reindeer are sometimes found in butcher shops.

The other day, two doctors were overheard arguing about the best kind of a vacation. One claimed it was much more pleasant to spend a week in camp on a lake with his rod and reel. The other claimed that more sport was to be found with dog and gun. No doubt most men enjoy both. Bass, catfish, bluegill and trout are

here again, since the depleted lakes and streams have been replenished, and an angler may now indulge in the President's pastime with some satisfactory results.

In some neighborhoods, the farmers regard the pigeons as great pests but let them roost in the haymows unmolested all summer. Then the slaughter comes on a designated day. The birds fly from farm to farm in an effort to escape, but in no place can they alight without being shot at. In the evening the neighbors all gather at one hearth for a friendly game of cards and a potpie supper.

Perhaps one of the greatest fall sports for hunters is duck and goose hunting. The old Canadian goose has become evasive and is scarce, but ducks are plentiful. Often the migratory flocks sail over the blind and pay no more attention to decoys than does the government mail plane as it flies by, but when the ducks begin to circle and swoop down, one can almost taste them. All the different kinds of wild duck, mallard, teal, sprigtail and canvasback, can be handled in the same way. Only the fish-eaters need especial attention, and if game is so scarce that one has to resort to them, they can be made appetizing. Every hunter, trapper or fisherman knows how to dress the catch; hence my comments will be confined to the seasoning and cooking.

FRIED FISH

The first essential for good fried fish is to have it strictly fresh. This quality the sportsman may be sure of, since he gets the fish from Nature's larder. The next essential is a frying pan, deep enough and wide enough. Heavy iron skillets are especially fine for the purpose. Iron is most practical, since it distributes the heat well and is not easily warped by careless handling or overheating. A hot fire is needed. Fish should be plunged into plenty of hot fat and fried fast until crisply brown and deliciously tender. They should be sprinkled with salt and pepper on both sides during the cooking. The fish may be fried on a camp stove, similar to the one illustrated, which can be folded and carried like a suitcase and can be used where firewood is scarce, where the ground is damp or snow-covered, or in places where campfires cannot be built, such as in a forest.

BROILED GAME

The young birds may be broiled over glowing charcoal or the camp-fire which has burned down to red coals, giving even heat. The cleaned birds are placed in a wire toaster, the wires having been greased. Small game birds are broiled whole or split in half, while duck and pheasant are cut into pieces. The bird may be dipped into a cooking oil, may be rubbed with lard or shortening or may have strips of salt pork or bacon laid across the breast and held in place by the wire grill to baste the flesh and prevent it from becoming dry. The food is placed close enough to the fire so that it will cook fast, puffing and sputtering. When well browned on one side, the other side is broiled. A little cooking oil may be brushed on, if the surface seems too dry. When cooked, the meat is sprinkled with salt and pepper, spread with butter and eaten hot. An excellent dressing may be made by rubbing into ¼ cup of butter the following ingredients: ½ tablespoonful of chopped parsley, 1½ tablespoonfuls of lemon juice, ½ teaspoonful of salt and ⅛ teaspoonful of pepper.

Any young animal may be broiled in this way. The pieces must be small enough to cook thoroughly by the time the outside is crisply brown and well done. One must be sure that young animals are selected. The older ones become hard, dry and tough when subjected to this kind of cooking; they need steam and more time.

Ducks and geese are dark meat. They should be rare in the center, so that the pink juices flow when the meat is cut. However, one may allow longer time to cook if medium or well done meat is preferred. The pheasant family is white meat and should be well done.

BROILED VENISON STEAK

Venison steak is broiled like beefsteak, but it requires a few minutes longer. Those cuts which are suitable for steaks are sliced 1½ inches thick; if the slices are too thin, the meat dries out. The fell is removed. Short rib steaks may be rolled and skewered with bacon and then broiled. The cut that corresponds to a round steak in beef must be slowly chicken-fried, after flour has been pounded into it and the tougher fibers have been broken down.

VENISON STEW

The less tender cuts are covered with weak vinegar, with three or four onions, cloves and bay leaves. The meat, kept in a cold place for two days, is rinsed well and stewed slowly, being made tender by long cooking. Instead of the vinegar, sour cream may be used to cover the meat, which is cooked slowly in a casserole. Canned mushrooms may be used as a garnish.

One fact that should be considered is that the game may be a bit old and tough; hence it must be given long slow cooking, while tightly covered, in order to retain that flavor which makes it distinctive.

VENISON ROAST

Venison roast may be dry, unless it is covered with salt pork to baste it. A shoulder or leg may be rolled in flour and roasted slowly (350 F.) allowing approximately thirty minutes for each pound.

The perfect end of a perfect day.

The juice in the roaster is thickened to make brown gravy, and 2 tablespoonfuls of current jelly is added to each pint.

PIGEON PIE

Split the pigeons or doves or cut them into several pieces, brown them in bacon fat, cover with boiling water and let simmer for four or five hours with a sliced onion and a few cloves, a sliced carrot, minced celery or parsley and salt and pepper. When tender, remove the birds and place them in a baking dish. Thicken the liquor with 2 tablespoonfuls of flour for each cupful of liquid and pour it over the birds. Top with a pastry cover or baking powder biscuits, and bake in a hot oven. Individual meat pie dishes save bothersome serving from a large dish.

FRIED RABBIT OR SQUIRREL

A deep frying pan is used with fat about 1 inch deep. The game is cut into pieces. When possible, only the rear quarters are used, the back being cut into two pieces. These are rolled in flour or in fine crumbs, then in beaten egg and finally in coarse cracker or bread crumbs. They should fry rapidly at first to make a good brown crust. If the animal is old, the rapid frying must be followed with slow frying, with the lid on the pan. The meat is salted and peppered during the cooking. Pan gravy is made in the skillet afterward. Potatoes and a green vegetable such as canned spinach make a pleasing accompaniment.

WILD DUCK

If roast wild duck is to be served rare no stuffing is used. However, if the bird is of the fish-eating variety a sliced apple, onion or carrot is placed inside to absorb the fishy odor and is discarded before the fowl is served. A piece of salt pork or bacon is placed across each breast, and the roast is placed in a hot oven (450 F.) to sear the outside and to seal in the flavorsome juices. After a half hour, the heat is reduced (325 F.), and the roasting is continued until the meat is tender.

BRAISED DUCK OR OTHER GAME

Braising is a good way of preparing game which has a less desirable flavor in itself and needs added vegetables to improve it. Sauté the pieces in hot fat, place in a casserole and add any desired amount of sliced carrots, celery and onions. Sprinkle with flour, cover tightly and bake in a moderate oven (350 F.) until the meat is tender.

ROAST GOOSE OR DUCK STUFFED WITH SAUERKRAUT

Place the kraut in the bottom of the roaster, lay the bird, stuffed with kraut, on top and roast slowly (350 F.) until tender, the length of time depending on the size and age of the bird. The flavor of kraut is delicious and counteracts the richness of the goose.

PHEASANT

Several years ago, a few ring-necked pheasants were imported into the Middle West, and motorists occasionally caught a glimpse of one of these beautiful birds on a side road. Owing to the efforts of sportsmen in conserving these birds, there are now thousands to be bagged during the few days of open season each year, so that nearly every huntsman's wife will have at least one pheasant to prepare. The meat is white with a delicate and elusive flavor, which should be preserved carefully. If the pheasant flavor is lost, the result is a rather tasteless dry meat. The cleaned pheasant is placed in a tightly covered kettle, waterless cooker or Dutch oven and is about half-covered with a quart of sweet milk. One sixteenth of a teaspoonful of soda is added to neutralize the acidity of the wild fowl and possibly to prevent the milk from curdling. The pheasant is then slowly simmered until it is tender. If it is a large old bird, this may require two or three hours. More milk is added if needed. It should not be allowed to boil hard or fast. Salt is sprinkled over the bird. When tender, the bird is lifted onto a hot platter. The milk is given a thorough beating with a rotary beater, if it is curdled, and is thickened to make a flavorsome, and somewhat unusual, but excellent gravy. This is served with the pheasant and plain steamed potatoes.

A Waltonian's Utopia includes freshly caught fish, fried in a heavy iron skillet until crisp, brown and tender.

ROAST QUAIL OR SQUAB

Line the roaster with parchment paper, folding it over the birds carefully or tying with a string to hold in every bit of exquisite flavor. Use low heat (about 325 F.) until the meat is tender. Serve immediately on buttered toast.

SQUAB BAKED IN MILK

Essentially the same method is used for squab or pigeon as for pheasant. The pigeon, however, requires a much longer time for cooking. The thickened gravy is delicious. Two level tablespoonfuls of flour should be allowed to each half-pint of measured milk after the birds have been removed from it. No butter or other shortening and no other seasoning is needed in this gravy, as the birds have been salted during the cooking. As far as flavor is concerned, there is really no comparison between the results obtained from this method of preparing squab or pheasant and those obtained from ordinary frying or roasting.

USES FOR LEFT-OVER GAME

The meat trimmed off the bones, along with bits of stewed liver, and neck meat made tender by long steaming, may be molded in aspic or lemon jelly, sliced cold with lettuce, and garnished with sliced stuffed olives or whole ripe olives and mayonnaise.

Bits of tender tasty meat may be mixed into a thick white sauce or leftover gravy, rolled in egg and cracker crumbs and fried in deep fat.

Cold sliced meat is used for club sandwiches or may be diced and served creamed on toast triangles.

BARBECUE SAUCE

Chop fine 1 onion and 1 clove of garlic (or less), add ½ pint of tomato purée, ½ pint of water, ½ cupful of catsup, ½ cupful of Worcestershire sauce, 1 tablespoonful of brown sugar, ½ cupful of vinegar, 1 tablespoonful of butter, and chilli pepper, salt and pepper to taste. Serve with freshly barbecued meat or fowl, or pour over the meat in a roaster and bake as usual.

ORANGE SAUCE

In making the gravy for duck, use orange juice instead of water. Garnish the fowl with sliced oranges, with a spoonful of bitter orange marmalade on each. Sliced oranges and orange sauce are good with any game which calls for a tart accompaniment.

TART JELLIES

One may serve gooseberry jelly, rhubarb conserve, cranberry jelly or sherbet with the game course, Jellied kumquats, sour plum or wild grape jelly, spiced apple sauce or green apple sauce, mint jelly molded in diamond shaped pieces and placed on orange slices, or lemon jelly will garnish the meat platter.

FRENCH DRESSING

French dressing is used to marinate a meat, making it more tender and flavorsome before cooking. It is needed on an old squirrel and may be used for venison steak.

Mix together 1 tablespoonful of dry mustard, ½ teaspoonful of salt, ⅛ teaspoonful of white pepper, ¼ teaspoonful of mild paprika, 2 tablespoonfuls of vinegar, 1 tablespoonful of lemon juice and 4 tablespoonfuls of salad oil. Shake this mixture well in a jar and pour over meat. Let the meat stand in a cold place until it is well seasoned before broiling or cooking in a casserole.

BREAD STUFFING

A bird may be stuffed and roasted. If there is a question as to its age, it may be parboiled or simmered, as hard boiling makes meat tough and stringy. Boiling in a large amount of water in an open kettle may cause considerable loss of flavor.

A double roaster with a compartment for hot water allows steam to rise and keep the meat moist. Ample steam, dripping back onto the meat from the cover of the roaster, usually gives better results than parboiling.

Bread stuffing should have something added to it for flavor. Stewed celery is a favorite. Chopped onion or parsley combines well with game. Prunes pitted and stuffed with almonds may be put into the dressing or used to garnish the platter. If the bird is to be roasted rare, a stuffing is steamed until the raw ingredients are well done before it is put into the bird.

MASHED POTATO STUFFING

Many cooks claim that mashed potato stuffing is best with wild game. The ingredients used are 2 cupfuls of potato, 3 tablespoonfuls of finely chopped onion, 1 well beaten egg in ½ cup of milk, 1 tablespoonful of butter, 2 tablespoonfuls of chopped parsley, with pepper and salt to taste.

FRIED POTATOES

In frying potatoes, sufficient fresh clean fat is used to cover the skillet. Meat fryings may be used if desired. When the fat is sizzling hot, the potatoes are turned into the skillet, and the fire is kept hot enough to cook them fast. They are stirred occasionally, and more fat is added to keep the skillet well greased. The potatoes should be sliced or diced into pieces of uniform size. A minced onion may be added. If the pan is covered, the potatoes will be steamed, while if they are fried uncovered, they will be more crisp. A deep bucket of fat and a wire basket lowered into it assure crisp frying on all sides. Boiled potatoes may be reheated whole in deep fat, or diced and warmed with meat cakes made from the ground-up left-over game; lemon juice, minced onion, parsley, celery or mustard are used for seasoning, and the patties are rolled in cracker crumbs.

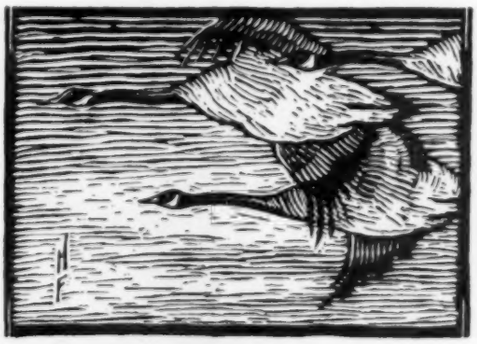
BREAD SAUCE FOR SMALL BIRDS

To 1 pint of hot milk, add 1 cupful of fresh bread crumbs, ½ teaspoonful of salt, a few grains of cayenne pepper, 1/16 teaspoonful or less of cloves and 1 tablespoonful of onion juice. Let this mixture simmer a few minutes; then pour it over broiled or roasted birds. Sprinkle well buttered dry bread crumbs on top and brown the meat below the broiler flame a few moments before serving.

TOAST FOR GARNISHING

Cubes, triangles or fancy shaped pieces of bread are lightly toasted to a crisp brown on the outside and soft inside, or thinly cut and slowly toasted until crisply brown throughout. Pieces of bread may be fried in butter to a golden brown and used to garnish the platter, being sprinkled, if desired, with fresh chopped parsley and bright red paprika. When the birds are roasted or broiled on a wire rack, pieces of bread may be spread with a sandwich spread or thousand island dressing which contains chopped pickles and spices. The bread, placed beneath the wires, toasts lightly as the meat juices drip onto it.

While game becomes more tender if "hung," one should be careful that the storage place is well ventilated and chilled. Americans do not have any appreciation of a "gamey" flavor and only wish to be sure that the meat is untainted; it may be kept free from taint by being properly stored at a temperature below 50 F. for a short time, or at a temperature just above freezing if it is to be held for a longer time, in the home refrigerator or the butcher's cold storage room.



Safety

A Necessity in Every Land

Herbert Photos

Policemen of Paris display luminous batons in directing night traffic. A button on the handle lights the electric bulb in the end of the club.

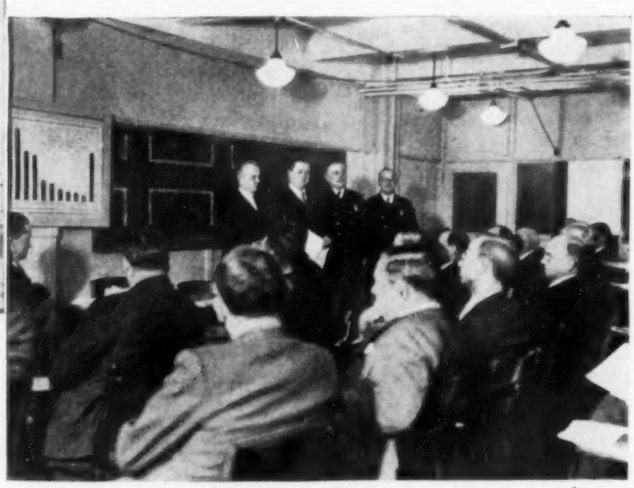
Ewing Galloway

White cuffs make the traffic signals of this London police official more easily distinguished.

Ewing Galloway

A semaphore strapped to the back of a Singapore policeman clearly puts a halt to approaching traffic.

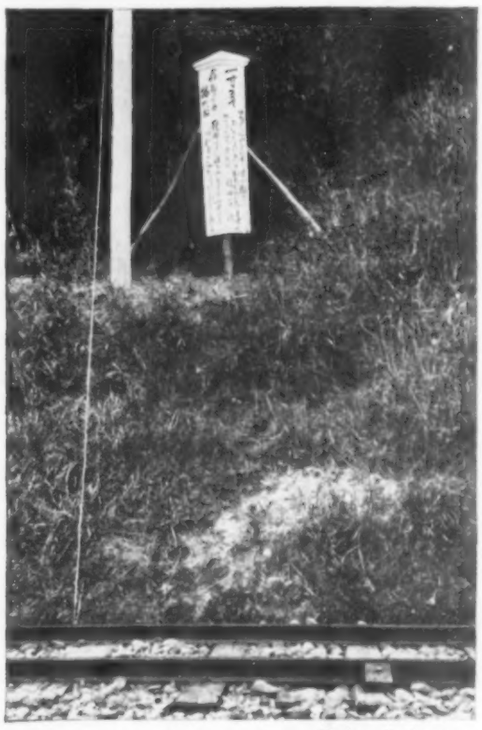
The New York City police department recently organized a school for the promotion of safety on the streets. A class is shown in session below.



Acme

Keystone View Co.

"The Roadside First Aide" shown to the left is supplied with all necessities for temporary dressings. By breaking the glass, securing a key and unlocking the door, an injured person near Guilford, Surrey, England, can obtain immediate medical care. The key is mailed the same day to the ambulance station.



Ewing Galloway

This unusual Japanese sign translated into English says, "Don't Commit Suicide." It is a warning to keep off the railroad track.

A Globe Photo

A Globe Photo

LIFE SAVING SERVICE

Denmark boasts of seventy-five life saving stations which are fully equipped for service on the rough seas. In the picture to the right the crew is shown conveying a boat to the water's edge and in the picture above it is seen on the way to the wrecked ship.

Autumn Accidents in the Home

By CURTIS BILLINGS

Be sure that the garage door is open before you start the engine.

National Safety Council

ONLY a few years ago a statistician, mulling over fragmentary data on the toll of fatal accidents in the United States, suddenly sat bolt upright in his chair, staring at the sheet of scrawled calculations before him. He may or may not have rubbed his eyes and pinched himself to ascertain his vigilance, but one may be certain that he plied his slide rule again and again to check his mathematics. The statistician had just discovered that during the previous year more people in the United States were slain accidentally in the supposed safety of their own homes than had lost their lives on the streets or in the waters or throughout all industry.

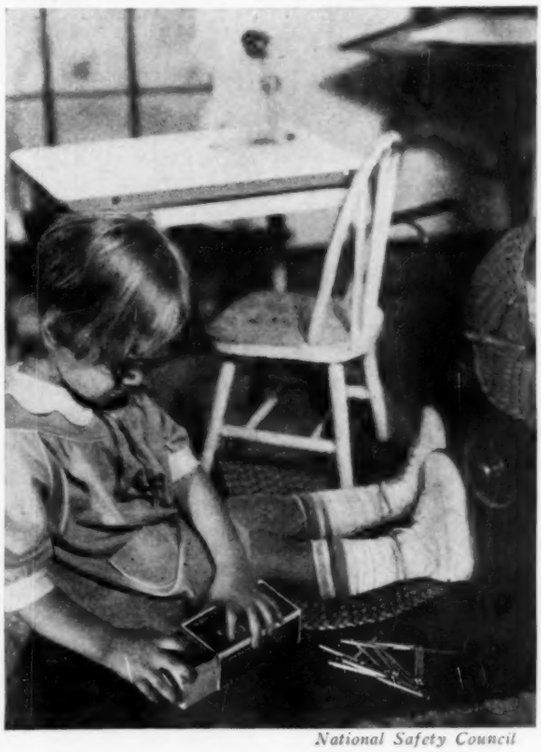
Then and there it was established that the American home is not the sanctuary for mother, father and the children that it was always thought to be. Since that time, efforts have been made to discover what it is in and about the house that causes all these accidents. Not many efforts have been made, and the studies have not gone deeply into the fundamental causes, but the main question about these accidents has been conclusively answered: They can be prevented.

Fatal accidents in the home now take an annual toll second only to that of automobiles, and despite the constant increase in traffic deaths during recent years, in 1931 they exceeded fatalities in the home by only 4,500; for according to carefully compiled statistics, 33,500 lives were lost as a result of street and highway mishaps, while accidental deaths in homes numbered 29,000. The last figure marked a reduction of 1,000 from the total of 1930—proof that the tens of thousands of pieces of literature on accident prevention in homes which have been distributed, the thousands of lectures delivered and the other potent educational measures taken are having their good effect. It must not be forgotten, however, that fatal accidents are but part of the story. Injuries in the home that fall short of causing death number more than 4 million a year. They range from comparatively slight cuts and burns to many cases in which the victim emerges from his hospital bed horribly disfigured and maimed. A far greater number of nonfatal mishaps occur in homes than on the streets or elsewhere.

While this is a distressing picture, it is not quite as bad as it at first appears. It must be remembered that the exposure to domestic accidents is ever so much greater than exposure to any other kind, perhaps greater, indeed, than exposure to all other kinds together; for most persons spend from a third to half of their time at home, whereas they are exposed to the hazards of the street, for instance, only an hour or two a day. Similarly, the home is not necessarily as inherently dangerous as the industrial plant simply because twice as many persons are killed at home as in industry. Only a fraction of the population consists of industrial workers,

but practically every person has a home. Thus one does not need to be fearful at home; one must only be aware of the potential accidents that lurk in every house and guard against them. A knowledge of common household hazards and a willingness to exercise reasonable care is about all that is required for safety.

Domestic accidents vary in nature with the geographic location of the home and with the seasons: One is not likely to nip one's toe in a lawn mower in January or slip on icy steps in July; and coasting accidents are not a serious menace to the safety of the children of Georgia. This tendency to geographic and seasonal variation constitutes the main reason why local registrars of vital statistics should be called on to compile records of deaths which occur accidentally in homes and why hospitals should be asked to do the same with nonfatal injury cases admitted for treatment. These data would enable newspapers to publish accurate information about the causes of serious accidents, season by season, and so warn the people against them. But until such records are available, it is well to use the data that the National Safety Council has gathered from many sources, because this material provides a fair picture of the national experience. If, on the basis of these figures, people will correct the hazards in their houses, many lives will be spared and the stupendous number of injuries will be drastically lowered.



National Safety Council

Children and matches should be strangers.

Falls rank as the outstanding cause of severe accidental injuries in the dwelling, and the normal activities of autumn are replete with opportunities for them to occur. In 1930, falls exacted a toll of 11,900 lives. The principal types of falls in the home were as follows: on stairs and steps, on floors and rugs, on walks and uneven ground, on ice, in bathtubs and showers, from ladders and scaffolds, and from chairs, tables and windows.

Ladders are used in cleaning the eaves, mending the drains, patching the roof, removing the screens, putting up the storm windows and doing countless other small jobs up and down the sides of houses by way of repairing the ravages of summer and preparing for winter. The use of ladders is almost a science. The National Safety Council has published a complete Safe Practices Pamphlet on ladders and how to use them safely.

It is not possible or desirable to treat exhaustively in this paper the problems arising from the use of ladders, but mention must be made of some of the more important aspects. Every ladder should be a real ladder, not a flimsy makeshift. Every rung should be tight and weightworthy. Nothing is more distressing or dangerous than, while carrying a heavy screen to the ground, to step down confidently onto a rung that is not there! Do not ask too much of your ladder. It is only a certain length, and it is dangerous to "stretch" it by standing it almost perpendicularly, so that its balance may be easily upset. If the ladder is too short for the job in hand, get a longer one or let the job go. Watch the footing for the ladder. In soft earth it may sink unevenly and tip; on concrete it may slide out from under one. If the footing is not sure beyond doubt, have some trusted person stand at the base and hold the ladder.

Many falls occur when the worker reaches too far out from his ladder. Reaching enables him frequently to save time, as, for example, when he is cleaning the eaves all the way around the house; but in the long run it is better to descend and move the ladder to the correct position. Have a safe and convenient place to store the ladder. It should not be allowed to lie on the ground at the side of the house or garage; it will only rot and present a tripping hazard. Hang it on substantial hooks on the inside wall of the garage or basement.

While falls from long ladders used outside the house often end in tragedy, they are scarcely more serious than falls from inadequate substitutes for step ladders inside. Whereas a substantial table may serve, if one is acrobatic enough to get up onto it and down from it safely, rocking chairs, chairs with cane or reed seats, boxes piled one on the other and barrel heads are extremely dangerous substitutes for ladders. A speaker at a recent safety congress described an accident which occurred when she was first married. She was standing on her sewing machine to hang a curtain when, inadvertently, she put her weight on the hinged cover of the machine. It promptly gave way under her. The result was a serious injury to her hip.

It is not pleasant to be standing on a tea cart when it decides to roll, or to lose one's balance on the precarious top of a radiator.

Falls are also caused by rakes, hoes, lawn mowers, bicycles, tricycles, roller skates, wagons and "scooters"—all reminiscent of happy summer days—which become lethal weapons of the worst sort if they are allowed to clutter up the steps, porches, walks, garage and basement floors throughout the autumn and winter. The garden implements should be hung securely on walls, and the playthings should be stowed in an out-of-the-way corner of the storeroom, attic or other little-used part of the house.

National Safety Council

A hand-rail and adequate lighting add safety to the cellar staircase.

The autumn cleaning time gives the housewife a good opportunity to eliminate the causes of other kinds of falls. When she is through with her semiannual crusade against dirt, she should be able to say, "Not only is my house clean, but it is also safe." Surely one ideal is as important as the other. This is the time to repair the cellar steps, to build a hand-rail for them and to have a light installed over them. It is also the time to anchor securely small rugs which slip and to remove any rugs from the head or foot of staircases. The housewife should be careful not to give the floors so fine a polishing that they are dangerously slippery. When the weather is freezing, the ice on the steps and walks should be melted with salt or covered with sand or ashes.

Next to falls the most deadly hazard to life in the American home is fire, which by burns, scalds and explosions takes the life of 6,000 men, women and children annually. More persons are burned to death in their homes than anywhere else. Indeed, of the five principal locations of death-dealing fires, three are dwellings of one kind or another. Classified according to circumstance, there are nineteen kinds of fires; of these, eleven occur most frequently in homes, and the sources of accidents attributable to them may be classed as follows: children with matches; gasoline used for cleaning; clothing ignited from stoves; clothing ignited otherwise; gasoline used to start fire; inflammable liquids or vapors; kerosene used to start fire; lamps or stoves; asphyxiation by smoke or suffocation; becoming trapped in burning buildings; firecrackers and fireworks.

Children are the great sufferers from burns. Thirty-one per cent of all the victims of fatal burns in 1929 were children under 5 years of age, and 14 per cent were in the age group from 5 to 14 years. Of the main causes, matches and smoking resulted in the greatest amount of property damage—almost $28,000,000 in 1929.

To prevent fires, matches should be kept beyond the reach of children too young to understand their use. Older children should be taught how to use them properly. It would seem that every intelligent adult would realize the dangers of the careless disposal of cigarets and burned matches. Use nonflammable ash trays of adequate size and form the habit of breaking every match stick before throwing it away. Then you will know that it is out. There are certain hazards connected with fire, however, that many persons do not understand fully, and the dangers of dry cleaning with gasoline, naphtha or other flammable volatiles are among these.

After cleaning with these substances out in the yard during the summer, some of the dangers of performing the job in the house have usually escaped the housekeeper's mind. In consequence she is taking a big chance when, on a crisp autumn morning, she decides to escape the cold and do her cleaning in the kitchen. Even though she may remember to extinguish the pilot light on the gas stove (and too many women forget to do this), she is in great danger. Vapors from the solvent cannot escape from the kitchen, and static electricity, generated by rubbing pieces of silk or other cloth together, can and may ignite them. These mishaps are always serious and frequently fatal. Such explosions are almost always followed by raging conflagrations.

Not long ago the home safety committee of the National Safety Council asked several authorities on fire prevention for their recommendations on dry cleaning in the home. They all agreed that the best plan is not to attempt it, that to risk the grave dangers is poor economy. They agreed, also, that if cleaning must be done in the home, explosive liquids such as naphtha, gasoline and benzine should not be used and that such a substitute as carbon tetrachloride is better. Because of the toxic properties of carbon

tetrachloride, however, extreme caution was urged.

Miss Katharine Fisher, director of Good Housekeeping Institute, offered the following specific suggestions:

1. Use a nonflammable solvent, such as carbon tetrachloride.
2. Keep the hands out of the solvent as much as possible—the hand type of suction washer is useful for this purpose.
3. Do the cleaning in a well ventilated room or outdoors.
4. Dry the clean garment in a well ventilated room or outside.
5. Do not allow children or domestic animals in the room when the cleaning is being done.

Miss Fisher added a word of explanation: "One reason why we recommend that the hands be kept out of the solvent as much as possible is that the person in using her hands is likely to bend over the container a little more closely than if she were using some kind of a device for agitating the garment in the solvent. The precaution concerning children and domestic animals is given because the fumes are heavier than air and tend to sink to the floor where they may become so concentrated as to be hazardous to small children and pets."

Robert S. Moulton, technical secretary of the National Fire Protection Association, made the following comment: "I have never felt that carbon tetrachloride under the conditions likely to be found in home use constituted any material hazard. The substance gives off a toxic vapor, but so does gasoline; and if we have a choice between two poisonous materials, one of them involving a fire hazard and the other none, it is clear that the material without the fire hazard should be selected."

Dr. M. G. Lloyd of the United States Bureau of Standards said: "I prefer to recommend the use of carbon tetrachloride with the caution that it be used only in well ventilated places."

Although the precautions discussed are extremely important, attention must be given also to other fire hazards even more typical of autumn. This is the season of falling leaves and dried grass. Children like to rake the leaves and grass into huge piles and touch them off as bonfires. If it is safe for an adult to do this in your community, to say nothing of children, yours is indeed a rare neighborhood. Such fires have been the cause of the destruction of entire towns. Leaves should be burned like other rubbish in a close-mesh burner which will not permit embers to fly. Children must be kept away. The leaves may be burned when the children are at school if it is necessary. Many a youngster's delight at a roaring fire has turned to terror when his clothing has become ignited and he has been enveloped in flames.

Fire threatens from other directions also. An important cause of domestic conflagrations is a dirty or faulty chimney. Now is the time to have the chimney and the furnace cleaned and repaired. Employ a responsible company to do the job rather than an itinerant chimney sweep who may or may not make your chimney safe.

Who can think of autumn without calling to mind the pleasures of open hearth fires? To most persons they are worth ten times the dirt and inconvenience they cause—provided they are safe. Shield the room from the fire by a substantial screen and beware of an unduly strong suction up the chimney, usually caused by winds outside, which can carry large embers away to light on your roof or on the roofs of neighbors. See that the fire is out or safely banked before leaving it for the night.

While the hazards of falls and fires in autumn are manifold, other hazards are also present. Particularly at this season is the danger of

National Safety Council

Many a youngster's delight at a roaring fire has turned to terror when his clothing has become ignited.

asphyxiation from carbon monoxide gas prevalent. There are three places in which accidents from this cause occur most frequently: the garage, the bathroom and the kitchen.

Mr. William Smith goes to his garage for his car on a cold autumn morning and decides to warm up the engine before starting out. Since it costs him money to heat the building, he decides that he will not open the doors until the last minute to conserve the heat. Small wonder that he is found, an hour or two later by a member of the family, slumped over the steering wheel, overcome and perhaps dead from carbon monoxide poisoning.

Since carbon monoxide is the most widespread poison connected with human activity, too much cannot be known about its chief char-

acteristics. One cannot see carbon monoxide; one cannot smell it or taste it. The gas is formed by the incomplete burning of materials containing carbon, such as gasoline and illuminating gas. This occurs in automobiles and also when a gas flame strikes a cooling surface, such as a pan of water.

Symptoms of carbon monoxide poisoning include a feeling of pressure in the region of the temples, ringing in the ears, severe headache, gastric distress accompanied by nausea and sometimes vomiting, fluttering of the heart, sensations of chilliness, weakness of the legs, hallucinations, sometimes convulsions and occasionally a blurring of the vision.

So subtle is this poison that there have been cases in which the sufferer felt no symptoms at all until he noticed the complete loss of control of his legs. There is nothing unpleasant enough in acute poisoning to arouse a sleeping person, and since the gas is heavier than air, it will be found in greatest intensity near the floor. Carbon monoxide is indeed a treacherous enemy of the human race!

It is possible to avoid the dangers of this gas in the garage by opening wide the doors before starting the engine of the car. In the bathroom a vent which actually does its job will carry away the fumes from the gas heater. Be sure the vent is working, especially in the fall and winter when the window is tightly closed. In the kitchen beware of outworn gas burners on the stove and of ill fitting stove tops. If a solid top gas stove is desired, one so equipped at the factory should be purchased. It is not safe to install a solid top on a stove designed for an open top. Always provide ventilation for the kitchen. Remember that only 1 part of carbon monoxide in 250 parts of air will kill a person who breathes it for an hour or sometimes less.

The treatment of carbon monoxide poisoning is simple, but it must be applied without a moment's delay. The following measures should be taken:

1. Remove the patient to fresh air.
2. If his breathing has stopped, if it is weak or present in only occasional gasps, apply the prone pressure method of resuscitation until normal breathing is resumed.
3. Call a doctor.
4. Aid the circulation by rubbing the patient's arms and legs and keeping his body warm with blankets. Use hot-water bottles, hot bricks or other devices, but take care that they are well wrapped so that they will not come in contact with the body and produce burns.
5. Keep the patient at rest to avoid a strain on his heart. Later treat him as a convalescent and give him plenty of time in which to recuperate.

While carbon monoxide poisoning is the most deadly of the common types of asphyxiation and suffocation, there are many others which, considered together, slay more than 2,000 Americans in their homes every year.

Since the autumn is the time for hunting, it is also the time of many accidents with firearms. A thousand persons die of accidental gunshot at home annually. Keep guns and ammunition under lock and key if there are children in the house and never leave a loaded rifle or shotgun around. It ought to be unnecessary to intone the age-old warning: Never point a gun at anybody except in self defense. "Unloaded" guns take their tragic toll every year.

Any discussion of autumn mishaps that overlooks the dangers of practical jokes at Hallowe'en and fails to include at least a sentence regarding the additional fire hazards in Thanksgiving day celebrations, is not quite complete. Be sure that the children do not participate in any Hallowe'en pranks which may bring death or lifelong suffering to some innocent person. There is a wide gap between soaping a neighbor's window and setting a snare to trip a householder if he gives chase. Also beware of fire in elaborate Thanksgiving decorations, which usually consist of dried leaves and corn stalks. They burn like tinder.

It will be by the observance of such simple rules of common sense and common prudence as have been mentioned in this article that the terrific toll of autumnal accidents in the home may be reduced this season.

Informality is the keynote of this attractive Thanksgiving setting.

LET US GIVE THANKS!

By

Doris W. McCray

THE REAL spur to overeating is a vast array of tempting foods possessing savory odor and interesting appearance. Let us sanely select our Thanksgiving dinner to give much joy and fewer regrets. Let the dishes be simple, with the natural food flavors and common seasonings. Let there be few of them, so that all may sample everything on the menu. The family doctor, our elders and our own common sense tell us that the feasting commonly indulged in is unwise. This year, let us sternly shave down that dinner menu to one that is simple and sane, although this may take some strength of character.

In the fall of 1620, a pitiful little group of Pilgrims made their way to these shores. The first winter of indescribable suffering and privation, cold, sickness and hunger amid hostile Indians cut their number from 101 down to 55. They sowed crops and breathed an anxious prayer over each sprouting seed. When the summer had passed, they were rewarded with a beautiful harvest. Governor Bradford issued a proclamation, in the fall of the next year, to celebrate with feast and thanksgiving. Four men were sent into the woods for four days, and they came back with wild turkeys and other fowl. Ninety of the friendly Indians, under Massasoit, their chief, were invited and came bringing deer and oysters.

There was an abundance of corn and there were coarse barley loaves in plenty, although potatoes, milk and butter were not found on that early feast table. Moreover, granulated sugar, roasted coffee and ground spices were lacking. Canned fruits and vegetables were unknown. The Indians had taught the Pilgrims how to prepare dried pumpkin, corn and salted and frozen meats for winter use. Baking powder had not been invented; yeast had to be home-made, and there was no telephone for ordering an extra loaf of bread. Bananas, oranges and grapefruit were unknown. There were no refrigerators to keep food from spoiling and to chill it to the most pleasing temperature for serving. These folk gave humble thanks that the rain and sun had come and had made food grow. Perhaps they were brave. Perhaps they were only glad to be alive with something to eat.

This year we can give thanks, joyfully, humbly—if merely for the fact that we have a dinner!

The average Thanksgiving dinner is a grave dietetic mistake. There are so many tempting foods that it would take more self control than most human beings possess to avoid overeating and the consequent ill effects. Let me seriously urge those of you who are planning dinners to desist in the interests of those who are to dine. Curb the desire to show all your culinary skill in one meal. Let there be less variety, less food, fewer courses and, withal, less temptation to overindulge.

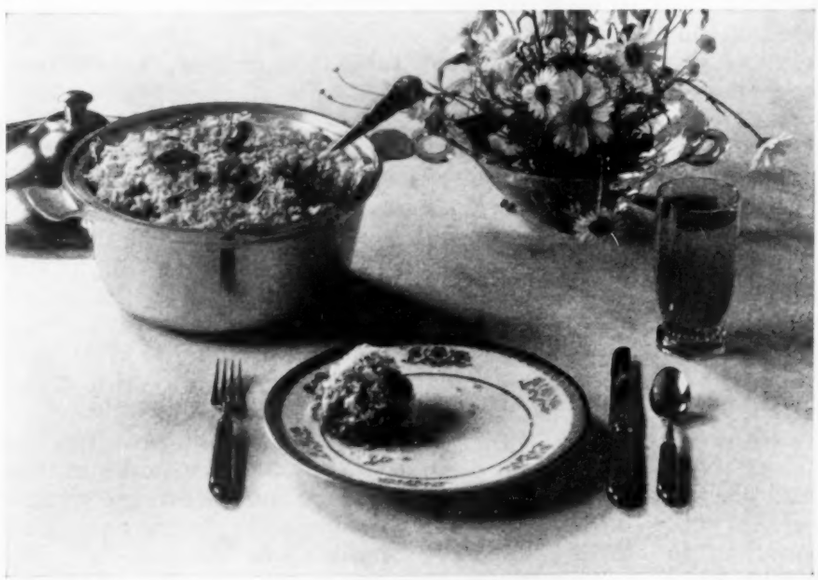
A meal may be appropriately begun with fruit. A cocktail is one favorite, concocted from sour fruits, not oversweetened, for this is only the beginning of the meal, and one does not desire too much sugar. The natural fruit sugar within the fruits is sufficient. The fruits ordinarily found in the refrigerator and any of the canned fruits are good for fruit cocktails. They are diced or cut into sizable pieces and covered with fruit juice. Bananas, thus submerged, will not discolor. These fruits are prepared ahead of time and served chilled. This is a simple, sensible beginning for the meal.

If the day is frosty, with the first flurry of snow in the air, and if the guests have had a long cold drive, a hot tomato soup may be preferred; this should be a thin soup, which will not furnish too many calories, for the appetite must not be dulled for what is to follow. A thick, nutritious soup may be selected for those days when the budget allows nothing but soup! In any case, a canned soup is the sensible solution for the harrassed housewife. There are too many other tasks besides hovering over a soup kettle.

Many persons prefer to start, immediately, on the meal itself, considering any beginning course a superfluity. There is something to be said for this idea. It saves washing the extra dishes and keeping the meat and vegetables hot. In these maidless days there is a delightful informality, characteristic of genuine hospitality, when the hostess sits down and enjoys the meal, entering into the spirit of the occasion with the family and guests. One of the tests of true cleverness is whether or not a woman actually enjoys her own dinners. This is largely decided by whether she plans such simple, easily executed meals that her energy is not overtaxed. She should not appear pale and tired, or flushed, hot and excited.

The salad, thoroughly chilled, may be placed on the table. It may be omitted entirely if there is crisp, crunchy celery in abundance. However, one enjoys something crisp and green in the way of a salad, with a plain boiled dressing or French dressing. There is no necessity for an elaborate concoction. Whipped cream mixed with many ingredients or an oily mayonnaise is inappropriate with a dinner. Rather, depend on the salad to furnish in addition to its well advertised vitamins and minerals that crisp, crunchy texture which combines so well with the soft mashed potatoes and the meat. And speaking of texture and the "feel" in the mouth, one likes the spongy springiness of good bread; the smooth waxiness of fresh butter; thin, quivery, tart jelly and, for grown-ups, clear coffee with its inimitable flavor and aroma.

The balanced meal has sharp contrasts in flavor, too: Hubbard squash, baked and unadorned except for butter, salt and a dash of pepper; onions, boiled or baked, clear, transparent, tender and full flavored, yet mild; spinach, clean, green, finely chopped, with only a suggestion of butter, and sliced eggs for color contrast. Something is wrong with the person who does not like good spinach—not the bedraggled kind. In selecting the desirable vegetables for your menu, choose one that is leafy and green, one that is starchy, such as potatoes, carrots or rice, and one other for good measure. These are sufficient.



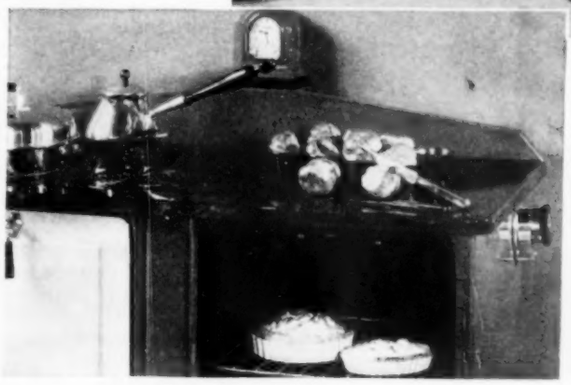
A gastronomic triumph—scalloped oysters in a burnished casserole. Colored-handled tableware adds a delightful note.

And now for the main attraction of the day, the turkey, following good old American tradition, or any other fowl or meat, which may be carved at the table or brought from the kitchen on hot, filled, individual plates.

Do not turn disdainfully or regretfully from turkey, thinking the price is out of reason, for, like many other farm products, the price is lower than in former years, and there is a goodly amount of real meat tucked away on those bones. In the market place, or out in the country where the birds are raised, a small bird

may be chosen for a small family, without fear of uninteresting left-overs; a medium-sized or large bird, or two birds should be selected for larger groups.

Turkey, it must be remembered, is rather dry. It requires a moist flavorsome dressing, such as that made with bread and cooked celery. The bird is cleaned and refrigerated, then stuffed immediately before roasting. Basting is eliminated in these busy days by the use of a covered roaster. One-half cupful of liquid or drippings is added. Any roast should be well salted before being put into the oven, to insure the best flavor. For perfect roasting, allow thirty minutes to the pound, at 350 F. At this temperature the turkey roasts properly.



Drip rings inside the roaster, above, take care of moisture condensation and basting. To the left are shown meringue-topped pumpkin pies in fluted china baking dishes.

Goose is the traditional Christmas fowl, but may well be served at Thanksgiving. One must remember to remove all the goose fat that can readily be taken off. One may pour some of it out of the roaster during the roasting if the goose is unusually fat. Pan gravy is not extremely popular with this fowl; plan, instead, to serve creamed peas or some other creamed vegetable to moisten the potatoes.

The dry mealiness of baked potatoes is especially good with this fowl. In fact, baked potatoes are good with any meal. Select a variety known as fine bakers, scrub them carefully and time them to come out of the oven at the right moment (from twenty-five to sixty minutes is required, depending on their size). A potato should not bake slower than 350 F. It should be served hot, directly from the oven. The steam should be allowed to escape immediately; if held within the potato skin, it makes the potato soggy.

Duck, guinea-hen or other fowl may be baked to celebrate the festivity.

As an economy suggestion, instead of capon, noted for its tenderness, an old hen may be purchased for several cents less and roasted most deliciously, presenting a fine appearance when served whole. First, stew it gently until it is practically tender. Then stuff it as usual, and roast it to a golden brown in a hot oven (400 F.). The water in which the hen was stewed is excellent for cooking noodles, or it may be saved for soup and part of it used for gravy.

A roast of beef with carrots and potatoes browned in the roasting pan, or a New England boiled dinner is unquestionably fine enough for a feast.

In regard to dessert, one usually comes to the end of the meal without a real desire for food. One wants only some trifle, nothing heavy or filling, to complete the meal. Yet how many times the hostess brings in a real creation, the crowning achievement of the meal, displaying her skill and ingenuity—an enigma as to ingredients; good, but much too rich; sweet and tasty—but no one is sufficiently hungry to enjoy it, and one finds oneself eating merely to be polite and to regret.

Rather, why cannot the considerate hostess serve fresh fruits from the tempting centerpiece, along with paper napkins and fruit knives, the equipment necessary to real enjoyment? Perhaps a few nuts and raisins might not be amiss, and as for bonbons, who can resist them? The hostess ought to decide on a sweet dessert or bonbons instead of leaving that painful decision to her guests.

Every one likes pie. It is the traditional Thanksgiving dessert. Plum pudding and fruit cake are the customary and proper Christmas sweets, although one often has them earlier in the year. Pumpkin pie, with meringue on top, is delicious. When rightly made, the crust is crisply tender, the filling richly creamy and fragrantly spicy and the meringue light, sweet and tender. If there has been a simple meal preceding, I recommend pie—but remember the "if."

A Thanksgiving dinner planned according to one of the following menus will be a genuine cause for rejoicing:

MENU I

Roast Turkey
Cranberry Sherbet or Baked Apples
Mashed Potatoes Turkey Gravy
Buttered String Beans Celery
Apricot Salad
Ice Cream Sponge Cake

MENU II

Grapefruit-Cherry Cocktail
Baked Chicken
Steamed Potatoes Chicken Gravy
Tomato and Cabbage Salad
Prune-Cranberry Dessert

MENU III

Baked Ham with Apricots
Scalloped Potatoes Popovers
Head Lettuce with French Dressing
Molded Fruit Gelatin, Whipped Cream Garnish
Crisp Cookies

MENU IV

Scalloped Oysters
Baked Potatoes Buttered Peas
Grated Carrot Salad
Pumpkin Pie

Recipes for the more unusual dishes mentioned are as follows:

CRANBERRY SHERBET

- 1½ cups cooked prunes
- 2 cups cranberries
- ½ cup water
- 1 cup sugar
- A few grains of salt
- 1 egg
- 1 cup evaporated milk

Remove the pits and cut the prunes in pieces. Wash the cranberries; add water, sugar and salt, and boil this for ten minutes. Add the prunes; allow these to heat through, then remove them from the fire to cool. Beat an egg and add the milk gradually, beating all the time. (The milk should be heated in the top of a double boiler for twenty minutes, then chilled thoroughly, in order to whip well). Fold the fruit mixture in. Freeze it for about four hours in a refrigerator tray or in a covered mold set in a mixture of chopped ice and salt. Serve this sherbet with the meat course.

PRUNE-CRANBERRY DESSERT

- 2 cups cranberries
- ½ cup sugar
- 2 cups cooked prunes
- ½ cup whipping cream
- 1 teaspoonful vanilla
- A few grains of salt

Wash the cranberries; cut them in halves; cover them with sugar, and allow them to stand overnight. Pit the prunes and cut these into halves. Whip the cream, flavor it with vanilla and salt, then blend it with the cranberries and prunes. Blend the mixture shortly before serving it.

CHICKEN OR TURKEY GRAVY

- ½ cup drippings from roaster
- ½ cup flour
- 1 quart skimmed milk (can be partly water)
- Salt and pepper to taste

Pour out the fat from the roaster; mix it to a smooth paste with the flour, and gradually add the heated milk, stirring the mixture constantly to make it smooth and to keep it smooth as it cooks in a heavy saucepan over the direct flame. It may be necessary to strain the fat from the roaster, but the gravy should be carefully made in order to avoid straining, which thins it. The gravy should always be tasted carefully, because it is impossible for a recipe to indicate the exact amount of salt required, since the amount in the roaster varies. Season also with white pepper and a few drops of onion juice, but not enough to cover the distinctive flavor of the gravy. Cover the roaster with a tight lid until serving time to prevent formation of scum on top of the gravy.

BAKED FOWL WITH RAISIN STUFFING

- 6 cups cooked rice
- ½ cup seedless raisins
- 2 teaspoonfuls sage
- 2 teaspoonfuls salt
- ¼ teaspoonful thyme
- ⅛ teaspoonful pepper
- 2 tablespoonfuls chopped onion
- ⅓ cup chopped green pepper
- ¼ cup melted butter

Wash and drain the raisins. Combine the rice with the raisins, onion, sage, salt, thyme, pepper and green pepper. Add melted butter and mix thoroughly. This mixture may be used as a stuffing for fowl; it is also good if spread on flank steak, which has first been scored across the grain. The steak should then be rolled up and baked for sixty minutes at 400 F. Raisin stuffing may also be baked in a separate baking dish.

APRICOT SALAD

- 2 cups dried apricots
- 1 package lemon gelatin
- ½ cup finely cut celery
- ½ cup finely cut green pepper

Boil the apricots for forty minutes and make a purée by rubbing through a sieve or colander. Dissolve the gelatin in the boiling purée. When cold, add celery and green pepper. Pour into a shallow pan or individual molds, and chill. Serve on lettuce with a spoonful of mayonnaise.

BAKED HAM WITH APRICOTS

- 2 cups cooked, slightly sweetened dried apricots
- 1 slice smoked ham, cut 1 inch thick

Cover the ham with cold water; heat to the boiling point, and drain. Place the ham in a casserole and cover it with apricots, either whole or beaten to a sauce. Cover the casserole. Bake the ingredients one and a quarter hours in a moderate oven (350 F.) or until the mixture boils; then reduce the temperature to 300 F. and finish the baking. The flavor is delicious.

SCALLOPED OYSTERS

- 1 pint oysters
- ½ pound fresh soda crackers
- 1 cup milk
- ½ teaspoonful salt
- 1/16 teaspoonful pepper
- 4 tablespoonfuls melted butter

Crush the crackers with a rolling pin into small pieces, but do not roll them fine. Reserve 1 cupful for the top of the casserole. Mix the remaining crackers with milk, oysters and 1 tablespoonful of melted butter. Season well with salt and pepper, and pour the mixture into a greased casserole. Cover the crumbs with melted butter, stirring them well, but do not leave them in the butter. Bake immediately in a hot oven (400 F.) for about forty-five minutes. Bits of bacon placed on top and browned as the dish bakes, add interest.

PUMPKIN PIE

- 5 eggs
- 3 cups rich milk or undiluted evaporated milk
- 1½ cups sugar
- 2 cups pumpkin
- 1 teaspoonful salt
- 4 tablespoonfuls flour
- ⅛ teaspoonful oil of cinnamon (or more)
- 1/16 teaspoonful oil of cloves

This recipe makes two large golden yellow pies. Mix together the pumpkin, flour, salt and sugar. Add the well beaten egg yolks and then the milk. Pour the mixture into a pastry-lined pan and bake for ten minutes in an oven preheated to 500 F. Slip the pies in quickly, so as not to cool the oven by opening the door. This very hot oven sets the pastry. After the pastry has been set, reduce the temperature to 325 F. and bake for twenty minutes. Remove the pies from the oven and cover them with a meringue. Bake for fifteen minutes at 325 F.

What Price Antivivisection?

By
VIRGIL HOLLAND MOON

MISUNDERSTANDING and misrepresentation concerning the use of animals for medical and other scientific purposes entitle the public to a candid authentic statement on this subject.

In one year, complete figures were collected from all the institutions in England at which animals were used experimentally. No such compilations have been made in America, but the use of animals here is exactly similar. Of the 73,000 animals used in that year, 96.5 per cent were utilized for inoculations, which are either completely painless or no more painful than vaccination. The other 3.5 per cent served for operative experiments, in all of which anesthesia was used.

Inoculation experiments are made to determine the effects of bacteria, drugs or other substances. The agents to be tested are either fed to the animal, sprayed into his nostrils or injected hypodermically. All animals are well fed and kept in sanitary quarters. Records of general condition, respiration, temperature, blood pressure, pulse rate and such special tests as blood counts and urine examinations, as for human patients, constitute the data from which conclusions are drawn. Without them, the experiments would be valueless. After sufficient observations, the animals either are returned as normal or are killed painlessly, and a careful bacteriologic and microscopic study is made of those organs and tissues that may be affected. This type of animal test is used also in the early diagnosis of tuberculosis and some other diseases.

For animals used in experiments on nutrition an abundance of food is provided which, however, is lacking in some nutritional factor such as salts, calcium, phosphorus, fat, protein or fresh vegetable substance. Over a period of time, the weight, rate of growth and general condition of these animals are compared with those of others whose diet was normal. The present state of human knowledge in the field of metabolism, including food deficiencies, vitamin activities, such diseases as scurvy, rickets, diabetes, anemia and others, was attained entirely by such use of animals. This knowledge has been of inestimable value in the treatment and in the prevention of the entire group of metabolic diseases. Prior to 1925, pernicious anemia was practically 100 per cent fatal. Since that time most patients receiving the appropriate dietary treatment fortunately have been cured by this means.

It is estimated that from 3 to 4 per cent of animal experimentation involves some form of surgical operation. Such operations range from an incision through the skin to reach a vessel, gland, duct or other structure, to major operations which involve opening the abdominal, thoracic or cranial cavities. Operations, whether minor or major, are performed under surgical asepsis and always with complete anesthesia. These conditions are necessary to the success of the operation and would be observed for that reason if for no other. Complete relaxation of all muscles is more necessary in operations on animals than on human beings. For this reason, complete anesthesia with ether is required on animals for operations which on human beings would be made under local anesthesia. The success of the experiment often depends on keeping the field of operation sterile. This makes it necessary for operated animals to be kept in the most hygienic surroundings possible. The work of Banting and his associates on diabetes is an example of this type of investigation. By removal of the pancreas in some animals and by ligation of the duct leading from it in others, these scientists not only proved the cause of diabetes but perfected a successful method for treating it. These experiments could not have been made except under complete anesthesia and could not have been successful if the wounds had become infected. The estimated number of cases of diabetes in the United States is 500,000. This army of sufferers and the cases that will develop in future generations have benefited by Banting's discovery in a degree that is beyond estimation. The experiments described required the use of perhaps thirty animals.

There exists among scientists a code of ethics which is more binding than legislative enactments. It requires that in all experiments on animals an anesthetic shall be used unless the experiment is of such a nature as to cause less discomfort than would be caused by anesthesia. Physicians apply the same rule when their pro-

cedures may be painful to the patient. In more than twenty years of active teaching and research work in medical colleges, I have probably used, or have seen used, animals in every form and for every purpose for which such institutions use them. I have never seen or known of a violation of this code.

Those who live in modern communities, safeguarded against infections and epidemics, have no conception of the ravages of such diseases since earliest history and until less than fifty years ago. Tacitus described the plague in Rome: "Houses were filled with dead bodies and the streets with funerals. . . . Alike, slaves and plebians were suddenly taken off amidst the lamentation of their wives and children, who while they mourned the dead, were themselves seized with the disease and, perishing, were burned on the same funeral pyre."

Twelve years later (80 A.D.) another epidemic swept Rome, causing 10,000 deaths daily. During the ages until the present century, wave after wave of pestilence swept Europe. The plague in 1384 A.D. took no less than 60 million lives. It was estimated that 25 per cent of the population of the then known world perished in that one pandemic. Nor was this an unusual occurrence. Between 1601 and 1603, 127,000 died of the plague in Moscow. The epidemic of 1630 took 500,000 lives in the Venetian Republic; Milan alone lost 80,000. In 1665, London lost 69,000; 70,000 died in Vienna in 1679, and the following year Prague lost 83,000, all from this disease. The horrors of such visitations are beyond description and can scarcely be imagined. For a time, attempts would be made to collect and bury the dead. Wagons would pass through the streets at night collecting the victims. The drivers, benumbed with drink, frequently failed to ascertain whether death had occurred. Living patients, desperately ill, were piled into the wagons with corpses beneath, about and on them. These gruesome loads were dumped pell-mell into huge pits hastily dug for the purpose. In some instances, living victims crawled out of these pits and survived to tell the tale. As the epidemic progressed, attempts to dispose of the dead were abandoned. Putrefying bodies were everywhere, in the houses and in the streets. Whole cities were left desolate, the few survivors having fled.

Outbreaks of disease on shipboard have been of common occurrence until recently. Blackwell sailed from Amsterdam in 1618 with 180 men. When Virginia was reached, 130 deaths had occurred on board. On the ship that brought William Penn to this country, thirty died from smallpox during the voyage. Occasionally all on board died, leaving the ship a derelict.

Physicians knew these maladies well and could distinguish one from another. They knew their contagious character but were powerless to prevent their spread. The agents of death made their attacks from an ambush of perfect invisibility. The conception of infection as a cause of disease had not yet entered the mind of man. The frequent epidemics were variously attributed to comets, evil spirits, miasmic vapors or the wrath of God. In some localities in Europe a peculiar custom was followed when an epidemic threatened. Two or more widows were hitched, ox-wise, to a plow, and at midnight a furrow was drawn about the threatened village or town. This method of prevention was as effective as any which physicians could prescribe at that time. Without any knowledge of causation, how could treatment be appropriate or prevention be effective?

In 1863, Devaine discovered microscopic rod-like bodies in the blood of sheep dying of anthrax. These rods were not present in the blood of healthy sheep. He found that the injection into healthy sheep of blood containing these rods caused anthrax in those sheep. These experiments suggested the conception of infection and indicated that bacteria were the cause of this disease and perhaps of other diseases. This discovery roused the curiosity of Koch, a young German physician. He abandoned his practice and spent months of study on the bacillus of anthrax. He learned to grow it artificially in test tubes; he used aniline dyes to make the bacilli visible; he devised animal inoculations by which to study virulence; he discovered bacterial spores and proved their significance by experiments on animals; he developed methods of sterilization by which bacteria were killed. This foundation of technic is still the basis for bacteriologic procedures. The results of these researches have saved unnumbered thousands of animals—sheep, horses and cattle—from death by anthrax and have prevented inestimable financial loss. Koch made similar experiments on other diseases and showed the causes of wound infections. In 1882 the world was electrified by his discovery of tubercle bacilli. That these bacilli are the cause of tuberculosis, how they are spread, how they gain entrance into the body and how the disease may be prevented had to be shown by animal experiments. There was, and is, no other way of gaining such knowledge. As a result of this knowledge the death rate from tuberculosis since 1900 has been reduced 54 per cent.

Meanwhile, Pasteur was conducting investigations on immunity. He found that he could protect fowl against chicken cholera by artificial

immunization. These experiments were the basis for hope that a successful treatment might be found for hydrophobia, which was then prevalent. Many months were spent in dangerous experiments before success seemed probable. Dogs raging and foaming with rabies, threatening with a horrible death all living things about them, were captured and brought to the kennels for study. Many times Pasteur was seen with a small glass tube held between his lips drawing the deadly saliva into the tube from between the jaws of a raging mad dog held by his assistants. They were in constant danger of becoming infected throughout this study, and there was no treatment at that time which could have saved them. Finally Pasteur was able to cure dogs which had been infected. He applied the same method to human beings, and for the first time in history the life of a child infected with hydrophobia by the bite of a rabid dog was saved. In all medical literature there is no account of the survival of a patient in whom hydrophobia has developed. Among the hundreds of thousands treated by Pasteur's method the fatalities have been less than 1 per cent.

These discoveries caused medical science to turn a corner. Infectious disease, that enemy hitherto unseen and mysterious, was unmasked; its means of attack were made plain, and effective weapons of defense were provided. Lord Lister was quick to apply Koch's explanation of wound infections, and modern aseptic surgery was made possible. The decade that followed was a glorious one for the "microbe hunters." One discovery followed another with startling rapidity. The causation of a score of diseases was established, and their means of spread was shown. Bacteriology and preventive medicine had arrived.

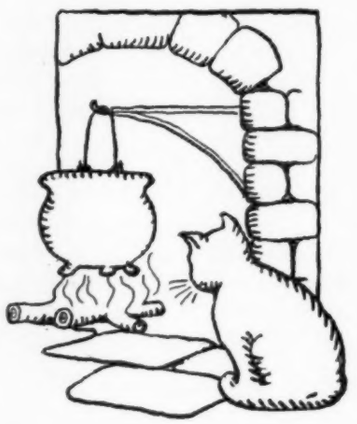
The success of modern medicine had to await accurate knowledge of the causation of disease. This knowledge was furnished laboriously, bit by bit, by a small group of obscure scientists to whom civilization owes a debt whose magnitude it does not comprehend. They braved the unseen and mysterious dangers of disease with as high courage as man can summon. Neither reward nor fame awaited them; no acclaim of shouting multitudes greeted their success. When, as often happened, they succumbed to the disease they sought to conquer, no marble shaft marked their resting place and no bronze tablet recorded the story of their sacrifice. Yet as they passed they left to humanity a heritage which will live while civilization lasts. A thousand years hence a generation which knows not the name of von Behring will protect its children from death by diphtheria, and those who never heard of Carroll, Lazear or Noguchi will live unmenaced by yellow fever. Men are capable of no more lofty idealism and unselfishness than those who renounced the hope of gain or fame, who accepted poverty and chose to labor to emancipate humanity from its ills. In a literal sense they gave their lives "that men might have life and might have it more abundantly."

Since 1906 there have been only five deaths from yellow fever in the United States. Outbreaks of cholera and of the plague are unknown. In former years puerperal fever took the lives of from 5 to 50 of each 100 parturient mothers. At present an average of 1 out of 1,250 mothers dies of this infection following childbirth. Deaths from many diseases are less than one-tenth their former number. These include wound infections, diphtheria, scarlet fever, malaria, dysentery, typhoid, smallpox and many dietary and metabolic diseases. Since 1880, medical science has accomplished a total net saving of human life from all diseases which, if equally distributed among the population, would add sixteen years to the life of each person. In 1880 the average duration of human life, that is, the average age at which death occurred, was 41.78 years. In 1925 the average duration of life was 58.29 years. In other words those born at this time live on the average 16.5 years longer than those who were born prior to 1880. In a population of 120,000,000 this would mean a total of 1,920,000,000 additional years of life! Such a figure is as difficult to conceive as are interstellar spaces. That is one contribution, numerically expressed, which Medical Science and its offspring, Preventive Medicine, have made to this population in the short space of fifty years.

The stupendous aggregate saving of human life just cited would have been impossible but for animal experimentation. In the study of disease, animals are to the pathologist what test tubes are to the chemist; they supply the condition under which the action and counteraction of cause and effect may be studied. Is such use of animals less justifiable than their use as food or clothing? Few antivivisectionists will hesitate to sacrifice an animal in order that they and their families may have meat for a day or a week. Would they hesitate to kill an animal if by so doing they could prolong by a year the life of some member of the family? Is an additional year of human life an adequate return for the life of a dog, a rabbit or a rat? If so, then medical science should be credited with 1,920,000,000 animals already purchased. If not, then the bid may be raised. With this wealth of added years of human life to its credit, medical science need not be niggardly. It can offer 100 years of human life—more than the life of

one person—for the privilege of using one animal for experimental purposes. On this basis, science would be credited with the right to use 19,200,000 animals—an abundant supply for a century!

The opponents of animal experimentation may be grouped according to their motivation. That of the first group is not difficult of psychologic interpretation. Instincts, the normal expression or exercise of which has been repressed, tend to manifest themselves vicariously. Substitutions and compensations occur unrecognized by the individual himself. If those to whom parenthood is denied adopt a child, the parental instinct may be satisfied adequately by the substitution. Many persons, impelled by the same parental instinct, adopt pets. In this case the substitution is not adequate, the compensation is imperfect, and psychologic consequences of importance result. The manifestations of parental affection and devotion may become exaggerated and distorted. The foster parent may show an exaltation of devotion to the animal such as is sometimes shown by a mother for a crippled or defective child. The psychologic cast of one who has so adopted a cat becomes altered toward the entire species. The castration or trapping of other species arouses feeble emotional response, but the suggestion that cats are misused arouses militant tendencies. Such persons may found hospitals for animals, endow homes for strays or even establish cemeteries for pet animals, with provision for permanent markers over the graves. More frequently they leave large legacies to support the activities of various humane societies.

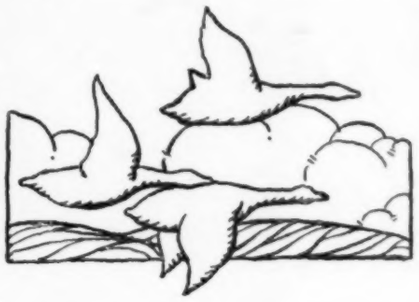


This deviation occurs more frequently in women than in men and is common among those whose social and financial circumstances provide an amount of time free from necessary occupation or professional duties. Usually the deviation from normal is not wide and could be adjusted or prevented by parenthood, either natural or by adoption. Similar deviations occur independently of the parental instinct and are similarly accompanied by emotional tendencies and lack of objectivity. The beliefs of the subject are neither based on nor modified by argument or evidence. He keeps his convictions, as it were, in logic-tight compartments. In some instances the deviation becomes marked. What may be termed a reformer complex develops. The reform cause becomes an obsession, a veritable *idée fixe*. This group is large and furnishes much of the motivation of the crusade of antivivisection. It is the fountain head from which flow streams of propaganda. The imaginative powers of its members are unimpaired, their flair for adjectives is uninhibited. Their literary style is free and flowing, unhampered alike by regard for facts and by comprehension of purposes. The products of this combination make interesting and diverting reading.

In another group belong members of pseudomedical cults fundamentally opposed to medicine as a science and as a profession. The medical profession has openly opposed such cults and has fostered regulations limiting the activities of those whose knowledge of the human body and its diseases falls below certain minimum requirements. Their espousal of the cause of antivivisection presents no deep problem of interpretation. They recognize that the conquest of disease by medical science would be retarded were animal experimentation made difficult. Other, and to them more weighty, considerations are concerned. Quack cancer specialists and healers, who, lacking medical training, ostentatiously assume the title "Doctor," have become eminent leaders in the antivivisection crusade. It furnishes both a plausible *raison d'être* for privately owned periodicals and an appreciative class of readers. Such periodicals, ostensibly devoted to antivivisection, serve ends not wholly altruistic. Both indirect and direct advertising sells the editor's services to his public. The pages are devoted largely to attacks on legitimate medicine which tend to destroy the reader's faith in all measures that the medical profession has found to be effective. All vaccination and other scientific measures for preventing or treating infections are anathema. Animal experimentation has played a part in their development. Obviously, neither individual physicians nor public health agencies can prevent occasional mishaps among the tens of millions to whom they minister. Neither can the most efficient transportation organizations prevent an occasional accident resulting in injury or death of passengers. If a disaster or misfortune occurs in hospital, public health or medical practice, the antivivisection journals give it front page publicity with bold headlines and caustic invectives. The superiority of the editor's particular "-practic" or " -pathy" is not carefully concealed. The editor's written and spoken contributions have an appetizing pseudoscientific flavor which brings an ego-sustaining popularity not detrimental to the business of healing.

The reformer complex is inconspicuous among those of this group, and their views are not lacking in objectivity. Their total combined political influence is considerable, and its value to the crusade is of consequence. How influential

this group has been in diverting attention from such cruelties as trapping and castration and in directing it against animal experimentation, and thereby against medicine, can only be surmised.



Those lacking opportunity for securing dependable evidence on a question and lacking capacity for objective judgment based on the evidence presented constitute a third group. The mental processes of these are characterized by childlike faith in the verity of the printed paragraph. To this type, propaganda, as an instrument for molding public opinion, owes its development. For such persons it was created. A woman writes for publication: "The doctors say that an anesthesia is always used in operations on animals. That is a lot of hooey. I am sure the Antivivisection Society is not raising a lot of fuss over nothing. There must be some foundation for their claim that animals are experimented on without the use of anesthesia." Persons of this type fill the ranks in religious, political, benevolent and reform organizations. Their beliefs and opinions are formulated by others. They are moved by emotion rather than by evidence. They constitute the inert mass which, like a projectile when set in motion, acquires destructive momentum.

The motivation of the fourth group is financial in character. Gifts and bequests to organizations must be expended for the purposes specified. Such funds support various activities. Periodicals, pamphlets and books are published. Writers and lecturers are secured and, we hope, adequately paid. Administrative officers and clerical help are essential in all organizations. They cannot be expected to donate their services. Handsome roadside signs have been erected informing the public that thousands of animals are tortured to death in laboratories. Those who derive income from these activities, whether by writing, printing, poster painting, lecturing or erecting signboards, constitute the fourth group. Naturally each of the other groups overlaps somewhat into it. If the third group by virtue of its inertia resembles a projectile, then the fourth represents the gun and the firing charge. It is most potent and, if effectively operated and supplied with ammunition, most effective.

Propaganda, like other commodities, may be had for the price. If suitable material is not available, it is easily and promptly fabricated. The supply is suited to the demand. A cause having funds to be expended may lack facts, but it need not lack alleged facts. The literature of the antivivisectionists furnishes manifold illustrations of this. If a prosecutor should bring to trial a defendant charged with petty larceny on evidence such as that which exists concerning the wanton cruelty of scientists, he would be laughed out of court.

Does a cause which is inherently sound require support from fabricated evidence? In certain quarters the "framing" of evidence may be looked on with tolerance or approval. In other social and intellectual levels it is not regarded as good form.

Making City Streets Safe for Play

STREET PLAY in Cincinnati is safe because certain streets are barricaded. There are numerous cities which, through lack of play space, find it advisable to set aside certain streets at particular hours for play. Such a plan has been in successful operation for ten years in Cincinnati. The plan of operation is based on the following points:

1. Official barricades with city police signs designate the street that is to be used for play. The streets are promptly closed to traffic at 6 p. m. and are closed to play at 9 p. m.

2. Games are limited to volley ball for the older boys and men; kick ball, captain ball and center ball for the girls and young women; long base for smaller boys, and singing games and story telling for little children.

3. Game areas are marked off with granolite when the surface permits.

4. Each street is provided with a bulletin board for newspaper clippings and game rules.

5. After the second week, regular teams are formed and inter-playstreet games are played.

6. Every regular participant is registered. No interchange of registration is permitted.

7. Two trained gypsy story tellers are sent twice weekly to each playstreet.

8. A traveling theater with a program for both children and adults visits each playstreet five times during the summer, and from 800 to 1,200 persons have gathered on occasions.

9. Just before the street is closed, on hot nights, especially constructed street showers are attached to the street fire hydrant, and the children enjoy a shower.

This system of barricaded streets provides directed play, a desirable object for every municipality, *Recreation* magazine maintains.

Pioneers of Medicine

Marie Curie

By

CLAUDE LILLINGSTON

Half the failures in life arise from pulling in one's horse as he is leaping.

—J. C. HARE.

IN THE LIVES of the Curies, all the elements of an epic saga are present. Poor health, poverty and obscurity are its prelude. There follows a phase of intense work lightened by a great hope. Poverty and obscurity are still there but are of no account. The explorers have sighted new land. Then ensue moments of doubt and suspense, followed by recognition, dazzling fame and at its height, a sudden, violent death. The survivor struggles on alone, laboring in the service of humanity with great-hearted disregard of her personal sorrows.

Marie Sklowdowski, who later became Madame Curie, was born in Warsaw in 1867, the daughter of Professor Sklowdowski, a brilliant scientist. She spent her childhood in her father's physics laboratory, with discarded test-tubes and crucibles taking the place of dolls. She seems to have been early attracted to scientific research by forces which, imperfectly understood and ill defined, are called instinctive. Before she was out of her teens, she was helping her father with his experiments and was more familiar with the secrets of chemistry and physics than many a teacher of these subjects.

The death of Professor Sklowdowski, when his two daughters were barely grown up, broke up the family, driving one daughter to Vienna and the other to Paris. Starting life in Paris in 1892, Marie Sklowdowski found a humble lodging in the Latin quarter, where she eked out her existence with black bread and skimmed milk. The furniture of her single room consisted of a cot and a chair, and the job she secured consisted of cleaning bottles and test-tubes. Yet she had come to Paris to study chemistry, and this humble beginning was her chance. Professor Lippman, the head of the laboratory, soon found that this humble bottle-washer was also a dexterous and talented chemist, and promotion followed.

One day in 1894, one of her compatriots, a professor of physics, invited the young chemical student to spend the afternoon at his home with some friends. The first person she noticed on entering the room was a tall, distinguished-looking young Frenchman, Pierre Curie. Madame Curie has told in her reminiscences how, at their first meeting, she was struck by his serene expression, his air of slight "abandon," his speech, a trifle slow and deliberate, his simplicity, and his smile, at once serious and youthful. Chatting together, they promptly discovered a close affinity rooted in a community of purpose and ideals.

Marrying in July, 1895, they took a small three-room apartment. Pierre Curie was beginning to make a name for himself as a professor at the School of Physics and Chemistry, but his salary was only 6,000 francs a year. His wife helped him in his laboratory, and even the birth of her first daughter in 1897 interrupted

her work only for the briefest of intervals. In this year Pierre Curie was studying the growth of crystals, and his wife was inquiring into the magnetic properties of tempered steel.

The discovery of the x-rays by Roentgen some two years earlier had diverted the researches of many scientists to kindred problems, and in 1896, Henri Becquerel observed the spontaneous emission by uranium salts of rays of a special character. He found that a compound of uranium, placed on a photographic plate enveloped in black paper, produced on this plate an impression similar to that which would be produced by light. The impression was due to uranium rays passing through the paper.

It now became necessary to find a name to define the new property of matter manifested by the elements of uranium and thorium, and Madame Curie suggested the term radioactivity, which has since been generally adopted. Certain minerals, which contained uranium and thorium, were found to be more radioactive than their content of uranium and thorium seemed to warrant, and Madame Curie accordingly asked herself the question: Do not the minerals of uranium and thorium contain a small quantity of a hitherto unknown substance which must be much more powerfully radioactive than uranium and thorium?

Exploring the Unknown

Madame Curie set herself the task of answering this question in which her husband was also so interested that he left his work on the crystals, temporarily as he thought, to join her in this research. There was no bibliography to help them; they had left the security of charted waters and were exploring the unknown. It was found that the radiations of the compounds of uranium could be measured exactly. Search was made for other elements possessing this property of radiation, but of all the bodies examined, only the compounds of thorium were found to emit rays similar to those of uranium.

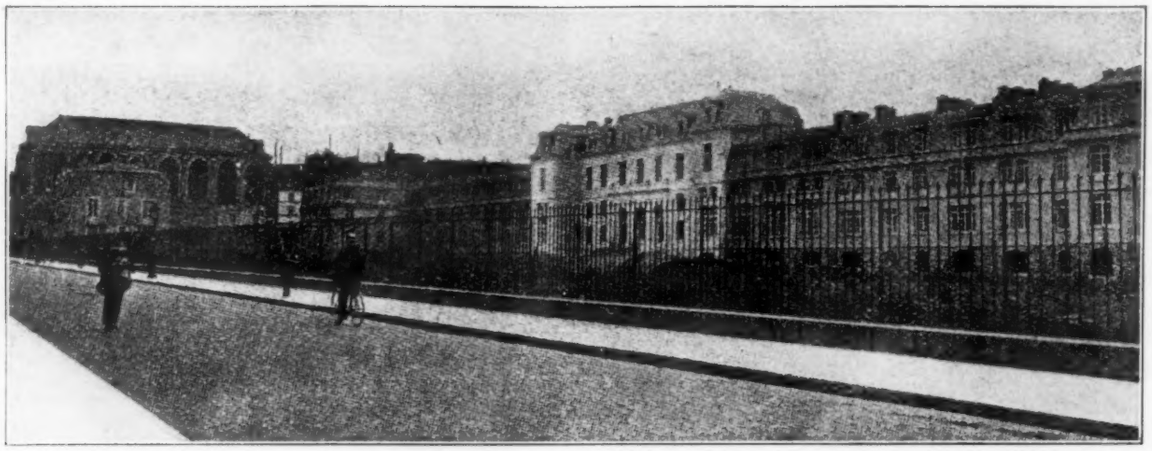
Hot on the scent of this hitherto undreamed-of element, husband and wife chose pitchblende, a uranium mineral, as their hunting ground. They expected to find that it contained at most 1 per cent of this new element, but as their work proceeded, the proportion of new radio-elements in pitchblende was found not to reach even one-millionth per cent. It was soon observed that there were at least two new radio-elements in pitchblende—polonium and radium. The existence of the former was announced in July, 1898, and that of radium in December of the same year.

The work that led up to this discovery was colossal. The Curies lacked money, accommodation and assistants. Pitchblende was costly. Its principal source at that time was a mine in Bohemia exploited by the Austrian government for the extraction of uranium. The Curies conjectured that all the radium and part of the polonium would be found in the waste products, hitherto regarded as valueless, of this mine. With the support of the Academy of Science in Vienna, several tons of these waste products were obtained at small cost, and the Curies set themselves the task of sifting this raw material.

Working Against Odds

Space, ample enough for the tons of material to be handled, had to be found. Doubtless the authorities whom the Curies approached did their best to provide them with accommodation, but their best consisted of an unused floorless wooden shed, with a roof which let in the rain, and furniture which consisted of deal tables, a stove which barely took the chill off the room and a blackboard. This shed was separated by a courtyard from the workshop, where the electrometric apparatus was installed; and as there were no chimneys for the escape of noxious gases generated in the shed, its windows had to be kept open, or, when the weather permitted, the operations setting free gases had to be carried out in the courtyard.

In this primitive laboratory the Curies toiled practically unaided for two years. The physical toil alone was gigantic, suited to a coal-heaver or railway porter perhaps, but certainly not to these explorers. Madame Curie had at times to treat as much as 20 kilograms of material in one lot, to fill the shed with bottles containing precipitates and liquids, to transfer material from



The Curie Institute, Paris.

one container to another, to decant liquids and to stir boiling material in a cast-iron cauldron with an iron rod.

In spite of this strenuous toil, the Curies were most happy. Day after day they labored on, taking their simple meals in the laboratory itself, where a sense of great well being reigned. Sometimes, while supervising an experiment, they would walk to and fro, talking over their work, present and future. If they felt cold, a cup of tea by the stove cheered them on. "We lived in a unique state of preoccupation, as though in a dream." Sometimes they would come back to the laboratory in the evening to see that all was well. On tables and shelves were placed the precious objects for which they had no better home. On these occasions the faintly luminous outlines of the contents of the tables and shelves glimmered in the darkness, seeming to be suspended in it, and this phenomenon never failed to fill both workers with emotion and delight.

By 1902, the work had proceeded so far that a decigram of radium chloride had been isolated, and with this trophy serving as a tangible text to her sermon, Madame Curie presented to an astounded scientific world her thesis for the degree of doctor. She showed that the radioactivity of radium is a million times greater than that of uranium and that this amazing property of radium depends on the slow destruction of its atoms. Hitherto, scientists had credited the atom with a solid stability, in a world in which all else was unstable and shifting. Molecules might come and go, more or less unstable conglomerations of unbreakable atoms. With unanswerable logic, Madame Curie stripped the atom of its reputation for permanency, for immortality. She showed the atom itself to be a world in movement, subject to changes and transmutations.

As soon as the significance of the Curies' discovery began to dawn on the world, they were advised by some of their friends to take out patents so as to reap material profits from their discovery. They were in need of money, not so much for their daily bread as for the pursuit of their studies; they were in need of assistants and of the thousand and one laboratory requisites which do not come showering down gratuitously on obscure research workers like manna from heaven. But the Curies set their faces steadfastly against making a corner in radium, and this self denial has contributed not a little to the free exploitation of their discovery. Madame Curie was not, however, in principle blind to the claims of the inventor or discoverer of things from which the world is tempted to profit without paying their authors; and we may for a moment break the chronological order of this biography by jumping to the year 1931 in which Madame Curie presented to the Academy of Medicine in Paris a report on the rights of inventors and discoverers. Her championship of their cause is the more cogent and convincing as she herself has consistently stood aside, letting others reap what she has sown.

Material assistance was, however, soon provided, and in 1903, the Nobel prize for physics, with its substantial cash supplement, was divided between the Curies and Henri Becquerel. In the same year the Curies were awarded the Davy Medal of the British Royal Society. In 1905, Pierre Curie was appointed professor of the faculty of sciences of Paris, and his wife was appointed as his chief assistant. In the first radium factory, started in France in 1904, the extraction of this precious element was effected by the same processes that the Curies had initiated on a small scale in their laboratory, and a victorious advance seemed assured along the whole line for both these leaders. Then, on April 19, 1906, Pierre Curie was run over by a lorry and killed instantly. A sorrowing nation honored itself even more than Madame Curie by appointing her to the chair so tragically vacated by her husband, and in 1911 a new international honor was bestowed on her by the award of the Nobel chemistry prize for her work on radioactivity.

The outbreak of the War found Madame Curie a broken woman, preparing to retire and enjoy the rest she had so richly earned. Ill as she was, however, she drew generously on the remaining stock of her vitality in organizing radiologic services in various hospitals and giving her expert assistance wherever and whenever it was needed. She had for some time realized the need for a school of radiology in Paris, and it is due chiefly to her initiative that one has since materialized. As head of the Radium Institute in Paris, she has been able to inspire research in the most promising directions.

Madame Curie's visits to the United States have evoked generous reactions which, in 1921, took the form of a gram of radium, given her by the women of America as a token of their gratitude to her. In passing this gift on to the Radium Institute in Paris, "to be used as long as it shall last," Madame Curie not only continued to live up to her principles of self denial but also reminded the world of the transience of things, even of atoms. On the occasion of her visit to the United States in 1929, she was again the recipient of a gram of radium, and this time she passed the gift on to the new Radium Institute in Poland, her native land. It was most fitting that Madame Curie, who had found herself at the end of the war with barely a particle of radium wherewith to continue her studies, should be endowed with 2 of the 170 grams of radium possessed by the whole world in 1929.

In 1931, the Third International Congress on Radiology, held in Paris between July 26 and 31 and attended by representatives from some thirty countries, elected Madame Curie as its honorary president. Those who saw her, surrounded by the most eminent savants of the world, vying with each other to do her honor, were left with an indelible impression of a matter-of-fact modesty and reticence in this rather tired-looking woman. Living a frugal, almost ascetic life, requiring few of those amenities of life which most of us have come to regard almost as necessities, she stands for something much more than scientific research. At the same time that she has bestowed untold wealth on the peoples, she has shown in her own life how happily one can dispense with wealth in all its forms. In this she is, indeed, a living paradox.

No greater tribute could be paid to Madame Curie's work than the concensus in 1931 in the world of medicine as to the benefits of radium in superficial forms of cancer. Treated early and efficiently, these forms of cancer respond to radium as snow to sun; this is no small achievement, and we owe it to the genius of this tired, modest, patient woman.

There'll Be a Pack of Good Things

In the December Issue

Unusual and tempting recipes will be contributed by *Doris W. McCray* in her article, entitled "Christmas Confections."

The "Doctors Look at Art"—and find it an absorbing and fascinating means of satisfying the human need for expression. *Dr. Innis Runchey* describes the Sixth Annual Exhibition of Works in the Plastic and Graphic Arts by American Physicians, which was held under the auspices of the New York Physicians Art Club.

"Are You a Hocus-Pocus Victim?" Whether or not you answer to that appellation, you will be interested in *J. Clarence Funk's* description of "vacant lot artists" and his denunciation of health fakes and fakers.

"If I Keep My Health" is a story by *Dr. W. W. Bauer* in which Tom, after his old friend Bill has talked to him "like a Dutch uncle," decides to reduce the waist-line and lengthen the life-line.

Aneta P. Beadle and *Sigfred M. Hauge* are the authors of a timely article, entitled "Avoiding a Health Depression."

"Cosmetic Follies" in their various phases are presented in their true colors by *Dr. Herman Goodman.*

"Father Christmas Comes to Newfoundland" tells the thrilling story of Dr. Grenfell's work in Newfoundland. It is written by *Abigail F. Halsey.*

"Menu Making," that ever intriguing topic, is the subject of *E. M. Geraghty's* contribution in the December issue.

Home Care After Infantile Paralysis

By
Florence Brookins Newman

Century Photos

"HE MUST compete—and compete—and compete." The doctor's words fell slowly and heavily like drops of mercury. In the next room lay his patient, my 11 year old son, the oldest of four children. For eight weeks the doctor had been attending this boy and calling in other physicians to assist in treating him for a rapid succession of ailments—middle ear infection, sinusitis, infantile paralysis and appendicitis. The paralysis had affected the boy's right side and chest. It left his right arm helpless and his breathing impaired. Appendicitis necessitated an operation and a drain followed by three weeks in bed. Now the doctor was paying his last visit on the Saturday before school opened.

"When can Harry go to school?" I asked anxiously.

"This will be his program," the answer came back quickly. "Next week he must be outdoors in the sunlight every possible minute, learning to walk steadily and normally; the next week after that he must go to school Monday, Wednesday and Friday, and follow his regular program; from that time on, he must do just as the other boys do. You don't want him different from the others. Remember, he must compete and compete and compete."

This, then, was the rough outline to be followed. Confidently I searched at the public library to find some general discussion of the home care of such a child. This need appears all the greater when one realizes that it follows immediately after several weeks of physical, mental and emotional strain on the parents. However, as there was no written aid and as acquaintances in the same situation were struggling along blindly, my husband and I set out to develop a detailed program for guidance. For several evenings that week we worked over it, and, of course, constant changes and readjustments have been made ever since.

It was evident immediately that we, the boy's parents, had to make the first adjustment. The steady impersonal routine of a normal home had to be reestablished; Harry must again share a room with his brother, and his mother must return to her own room, no longer a night nurse on call. Regular hours for retiring and rising, and normal diet, the same for all the children, were reinstated. Emotionally we, ourselves, had to go further. As a normal part of our work as parents, we had to assume the task of building the child back into his environment. If we weakened, felt despair or asked ourselves, as one mother did, "Why has this thing come to us?" we would be turning attention to ourselves and creating self pity in the child. When we had thoroughly oriented ourselves to this impersonal attitude we were ready to help to the best advantage.

Quite naturally, Harry's adjustment fell under three headings: emotional, physical and social. These were interdependent and always present, but it was helpful to remember the three results desired.

The boy's emotional adaptation began when his parents decided to disregard any emotional reaction in themselves. Soon after Harry began to go about among the boys and to attend school, the overwhelming obstacles ahead of him bore down his spirits. Often during the first months we found him in tears on his bed. "I can't ever do anything any more," he would say. "I can't be like the other boys." For such trying moments his father's companionship was best. About his mother's presence still lingered the memory of long illness and nursing. His father's presence suggested strength and challenge. So his father would lie down beside him. Patiently and quietly he would calm the boy. Then he would give encouragement by reminding the child that he could walk without a brace, that strength was returning and that each week brought some new achievement. The telling of a joke or some funny story would end the scene. Many cases came to Harry's knowledge in which children had been left more helpless than he and were recovering more slowly. His attention was constantly kept on the hopeful side of his condition. An account of Gov. Franklin D. Roosevelt's recovery was placed where the boy could read it. But increasingly, week by week, references to his illness or handicap were omitted from our conversation. We did not talk to him on the subject unless something made it necessary. Then, when the discussion was ended, it was dropped. This emotional adjustment was, I feel certain, the most important as well as the most difficult one.

The physical competition needed close attention, too, for as Harry's strength came back he had to be constantly required to do more and more. At first he fed himself, slowly and awkwardly with the left hand as he sat in bed. Soon he could sit at the table and needed only cutting and spreading done for him. Dressing was a complicated task to master, but, one by one, he assumed the different parts until, by New Year's Day, he could even tie his shoestrings. In mastering these tasks, his weakness and the awkwardness of using the left hand, primarily, often led him to give it up and say, "I can't do it. It's too hard." Then his father or I would do the same task and use the left hand. This turned the exercise into a game, and clumsiness became a joke. Every night the tub was filled with warm water, and Harry would sit in the bath exercising his arm under water. This treatment brought back much strength to his right arm. Later he swam at school and at the Y. M. C. A., and this summer he swam at the "Y" camp until he could cover nearly 60 feet. For six weeks he went to school by auto, as the books and lunch box were hard to manage. Then he began to wear a body brace to which a removable arm support is attached. This was a great help.

The classroom work and school hours soon proved too fatiguing. The quality of Harry's school work fell from the first hour class to the last. Here the principal gave assistance. He had Harry drink a bottle of milk from the cafeteria in the middle of the morning. This was in addition to the one he had with his lunch. The principal also offered to change the boy's program so as to allow me to bring him home at noon for a hot lunch and an hour's rest. This would have brought quicker advance than the extra milk alone. However, Harry pleaded not to be made any more different from the others, so we depended solely on the milk and secured satisfactory improvement. Late autumn saw him walking to and from school, selling his weekly magazines downtown and going on hikes at the week-ends. This constant increase in physical ability resulted from ten hours' sleep each night, a carefully prepared diet, aided by cod liver oil, and as much play as possible outdoors in the sun. Fortunately, too, he has a strong, active brother, 16 months younger than he is, with whom he plays and whom he strives to equal in physical achievement.

Century Photos

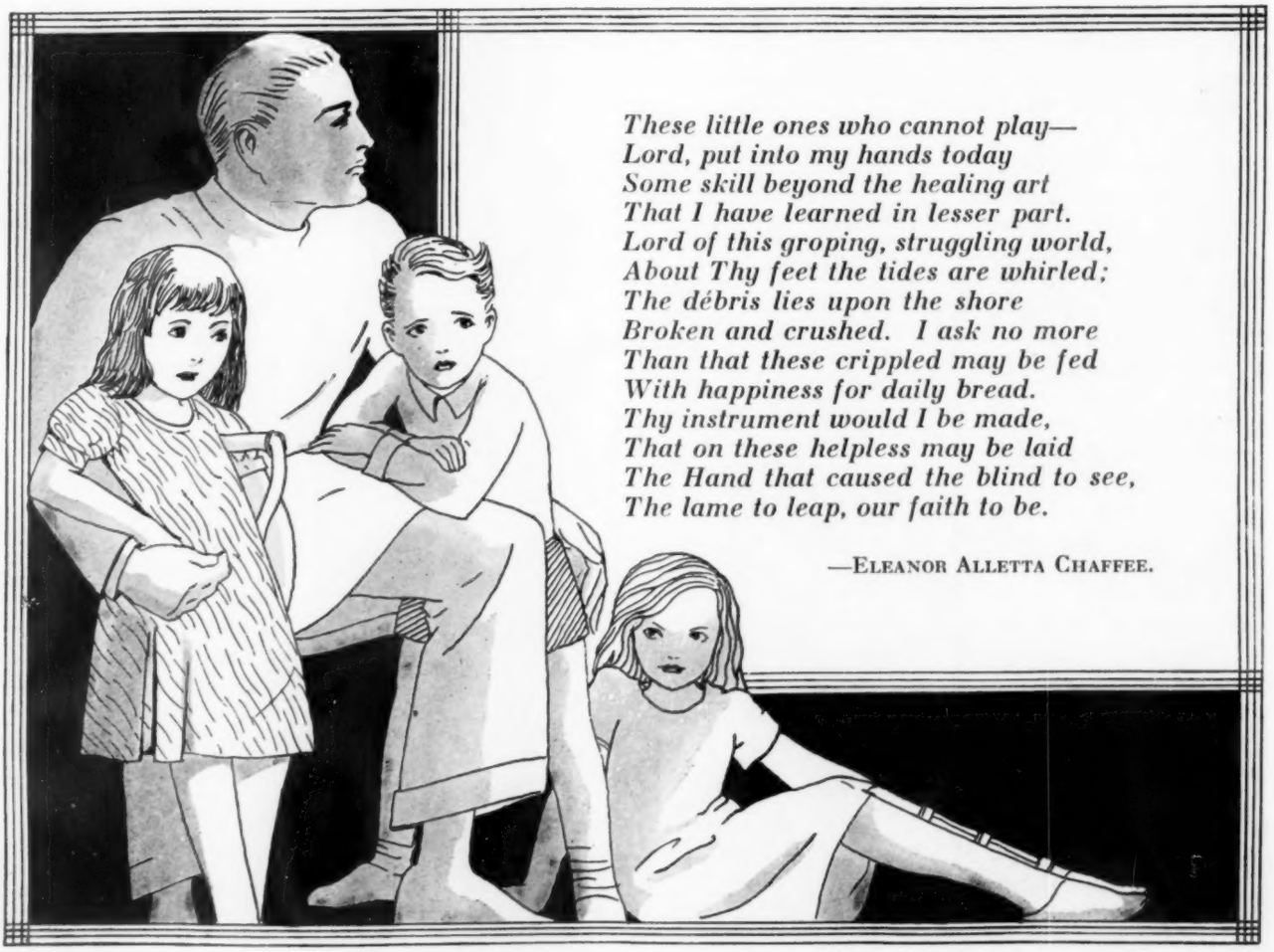
The social competition advanced hand in hand with the emotional and physical adjustment; he found it in classes at school, with the boys at play, in the "Y," at church and in his own home. At school, with the exception of writing exercises in which speed is a factor and gymnasium work dur-

ing which the right arm is employed, he has not been excused from any work. In order to compete satisfactorily with the leaders of the class he has had to develop his memory and power of concentration and this he has done with good results, so that his last term's average in the 8 B grade was B plus. The natural desire of boys to give every one a chance has been noticeable among his friends, and they have always found some game he can play or some position in a game that he can take, except in tennis and handball. So far, these have proved real stumbling blocks. However, ping-pong, chess, checkers and carom indoors, and roller skating, bicycling and swimming outdoors have given much recreation. Games requiring skill with the hand, as ping-pong, were first played for hours with his father, both using the left hand.

Finally, in the home he has regained enough efficiency to take a full share in the tasks required of the children. He can make a bed, dust a room, run a vacuum cleaner or push a floor brush. In the kitchen he can wash or wipe the dishes and prepare many foods for the table if the work does not require equal strength of the two hands. In most of these tasks he and I have run left-handed races. I try to select the duties for the children ahead of time so that it is not evident that Harry's unit is especially suited to him. He merely works as one of the group.

The result of our year's work is that Harry is eager to achieve. He neither runs to cover behind his handicap nor plays for sympathy. The other day he announced that he intends to try for football in senior high school. I hope he may realize his ambition. However, he still wears his brace. His arm is steadily, though slowly, gaining in strength and agility. He cannot raise it laterally or bring his hand up alone in front above his waist. What he can accomplish next year for his arm can only be conjectured, but, in general, what he must do socially, emotionally and physically, we do know. He must continue to compete and compete and compete.

PHYSICIAN'S PRAYER



These little ones who cannot play—
Lord, put into my hands today
Some skill beyond the healing art
That I have learned in lesser part.
Lord of this groping, struggling world,
About Thy feet the tides are whirled;
The débris lies upon the shore
Broken and crushed. I ask no more
Than that these crippled may be fed
With happiness for daily bread.
Thy instrument would I be made,
That on these helpless may be laid
The Hand that caused the blind to see,
The lame to leap, our faith to be.

—ELEANOR ALLETTA CHAFFEE.

Trials and Joys of Little Life

By BELLE COATES and GRETCHEN DONOHUE

"No! I don't want to be washed and combed. I like being dirty."

"Mean that, Mother? Don't ever have to be washed or combed again unless I want to? Hurray!"

Monday. "Two whole happy days without being annoyed with soap and water. This is the life for Little Life."

Tuesday. "Apple, Polly? Don't want it? My hands are too dirty, you say? All right Miss Polly. All the more for me."

Wednesday. "I heard you. I don't want to come to your old party anyway."

Thursday. "No, you're too dirty, Little Life, to play on our team. We play a clean game - inside and out."

Friday. "Why Figs! It's Little Life. — Don't you <u>Know</u> me?"

Saturday. "Mother, if you'd please wash and comb me I think I'd be the happiest boy in the world."

"Clean body — clean conscience. Nothing like it. Now we'll see about that party and football proposition."

"Out Too Soon"

Points for Patients Old and Young

By

JACOB M. CAHAN

Unfortunately, the family often assumes charge during the serious time of convalescence.

HOW SOON after an illness may one return to work, study or play? Just how much time does the after-treatment of a disease require? More particularly, how long should one be convalescing, if the disease from which one has suffered is known to affect the heart? How can others help the doctor to prevent heart disease? Furthermore, whose business is it to keep the convalescents from getting out too soon?

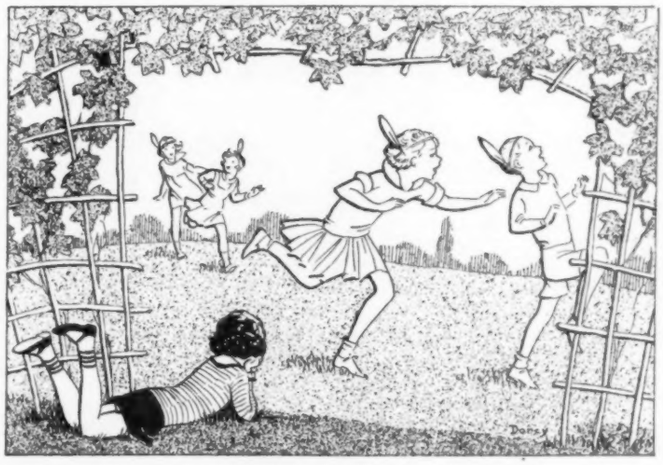
Recovery from an illness, to be complete, often requires careful after-treatment. Treatment in the acute stage of a disease is admittedly supervised by the doctor. His advice is a command. The patient and his family will usually obey the physician when he forbids reading or even having visitors during the time the patient is patently quite ill. However, when the patient is improving and is allowed certain freedom, the physician at times loses control of the patient's routine, and the patient himself, or his family, assumes charge during the serious time of convalescence. The doctor unwillingly fades out of the picture too soon. This occurs far too frequently and is principally due to the fact that the average patient or his family does not realize the necessity for a long convalescence after certain ailments. At times, the patient's economic circumstances compel him to make this mistake; but just as often it is not a matter of economy. Frequently, even the patient who is out of work and does not pay hospital fees has to be coaxed to remain in the hospital a little longer.

Leaving the hospital or the bedroom too soon, or returning to the usual vocation too early, often predisposes the patient to another disease, a sequela as it is professionally termed, because it is a follower of the preceding disease. This sequela may be more dangerous than the original disease. Hence an adequate convalescence is as important as prevention of the sequela. It is generally admitted that periodic health examinations go far toward the prevention of disease. Yet few adults and even fewer children go through these routine examinations. The result is that usually the physician sees the average man or woman and most children only when the patient is already suffering from some disease. The patient must, therefore, have a proper convalescence if a more lasting and more disabling chronic illness is to be avoided.

What should be the duration of a proper convalescence? Of course, the answer is: It depends on the particular disease and on the physical strength and the occupation of the convalescing person. Convalescence, to be curative, may require as little as one week, or as much as thirty years, or the remainder of the patient's life span. As an illustration, a patient may take a week to recover from what is known as a common cold, while he may feel the effects of an attack of acute rheumatic fever for many years. The physician is the one true authority to decide on the duration of the convalescence in each respective illness. It is understood, naturally, that the patient and the family must cooperate with the doctor. Moreover, the public at large must be liberated from old harmful notions about diagnoses and treatments of certain diseases. The mere mention of indisposition, as, for example, a complaint of a "run down" condition, frequently proves the "open sesame" to a flood of misinformation eagerly offered by well meaning but ill advised friends. Especially dangerous is the combination of a mistaken diagnosis made by a neighbor, treatment with some patent medicines suggested by some well meaning friend, and a too short rest at home or elsewhere. The popular belief, for instance, that rheumatism in a child appears in the form of painful joints, as it often shows itself in adults, is erroneous and treacherous.

Rheumatism—a baffling riddle in medicine—what is it? Medical science has not yet solved the problem as to its cause and cure; it is not able to prevent the disease. However, physicians do know how to diagnose all acute attacks and almost all chronic manifestations. They also know how to relieve the suffering of all the patients having the acute type of the disease, known as acute rheumatic fever. Moreover, avoidance of exposure to infection, dampness or other harmful environment lessens the frequency of the attacks. Removal of any source of infection in the body will help to prevent the usual damaging after-effects which imperil health and happiness.

There are a number of facts about this rheumatism that every parent and, indeed, every adult should know. Every one should know that rheumatism in a child is a disease of the heart and blood. It is not a disease of the joints. All parents and guardians of children should know certain facts about the beginning of an attack of rheumatism. A rheumatic condition does not usually announce itself with a bang. On the contrary, it often creeps into the child's bed, causing him to whimper at night and to toss about much in his sleep. "Growing pains," pain in the limbs, "tired legs," or stiffness of the muscles or joints, making the child "too lazy" to play—these are the masks that rheumatism often wears when it is sneaking in. All these related evidences really constitute a group known to doctors as rheumatic diseases. To this group should be added the more obvious relevant diseases, such as repeated attacks of sore throat, of tonsillitis or of that unholy St. Vitus' dance, also known as chorea. All these conditions are frank underlying causes of heart disease, by far more frequent in children than flagrant attacks of acute rheumatic fever, the real joint disease, a form to which the adult usually falls a victim. I am using the word usually advisedly, for even adults may suffer from some undiagnosed mild rheumatic condition that slowly undermines the heart. Most observers have learned that the diagnosis of a mildly active or apparently inactive stage of a rheumatic ailment, in a child as well as in an adult, often taxes the skill of the most careful physician. Furthermore, every one ought to know that a rheumatic disease is often a chronic long-lasting condition. In fact, the diagnosis and duration of a rheumatic condition is best compared to tuberculosis. Tuberculosis of the lungs, in its incipient or inactive stage, may be diagnosed with difficulty and may last a long time. So it is quite frequently with rheumatism. However, one must not be alarmed. Under proper treatment and convalescence, the heart, even if impaired, will function as long after a rheumatic illness as the lungs will in tuberculosis.



The child who is "always tired" may be suffering from rheumatism, not from laziness.

Thus rheumatic disease, though differing in its incipient stage and in its development and progress in the child and in the adult, leads to the same end in most cases. This end is heart disease. In one respect, rheumatic disease is worse than cancer. Rheumatic diseases attack the young, making them susceptible to heart diseases. Cancer attacks older persons and shortens the invalid's life. The patient who is left an invalid by rheumatic disease is supported by the family or other agency through years of idle misery. Furthermore, a patient with a serious heart disease has been justly compared to "a man walking along the edge of a precipice." He may walk there as a healthy man would. If, however, the slightest misstep occurs, he will almost certainly fall, whereas the healthy man will not fall over the edge. Entirely too many people are "falling over the edge of the precipice" right now, for heart disease is the greatest single cause of death. What is worse, heart disease is ever increasing. One must not forget that the allied rheumatic conditions are not the only causes of heart disease. Rheumatic diseases do, however, cause a great number of heart diseases. Estimating conservatively, every fifth patient having a medical—not a surgical—condition is suffering from some form of heart disease, and two or three out of every four patients suffering from some rheumatic ailment ultimately get some form of heart disease.

How, then, can the average person who is not a doctor help the medical profession to stop or diminish the increase of heart disease? He may do this by helping the patient to have a proper convalescence. Foremost of all ways to determine the duration of a proper convalescence for each respective recovery is, of course, to heed the physician's advice. On recovering from any illness, each patient should have the benefit of the doctor's advice before assuming greater

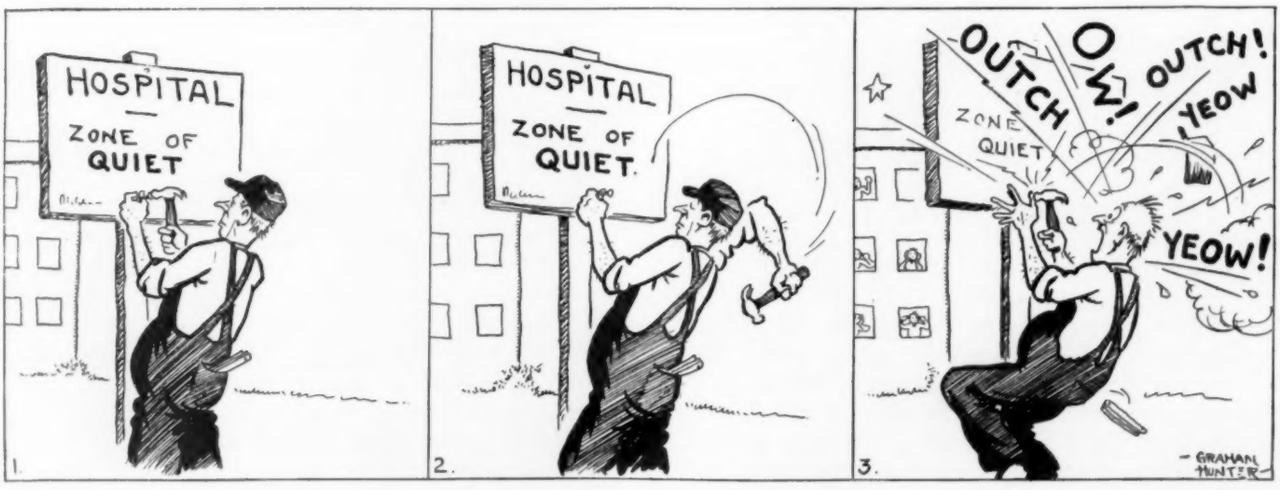
duties. If he is convalescing from pneumonia, scarlet fever or even tonsillitis, for instance, and cannot or will not visit his physician before his return to his former routine of work and play, in the shop, office, school or athletic field, he should at least telephone his doctor or write to him. The physician surely will be glad to tell the patient whether or not he is thereby going to court danger. At all events, the convalescent should get his physician's advice before returning to his former duties or recreations. It is true that the doctor cannot always foretell the final results, but his knowledge of the average outcome of a case will enable him to tell what may be expected in most instances.

Next to the physician, in the matter of going "out too soon," comes the parent or family of the patient. The intelligence, zeal and cooperation of the healthy adult, of father or mother, is particularly important during the patient's complete convalescence. In the case of a school child who has had a rheumatic illness or scarlet fever, the school authorities join in the responsibility of giving the child the proper convalescence and offer all possible cooperation. On request of the family physician or the parent, the school authorities will be only too glad to keep the pupil from competitive athletic activities for as long as necessary. Sometimes the school physician will discover the heart lesion and will disapprove the pupil's participation in "gym" work. Competitive exercises are particularly inadvisable on account of the possible overstrain. Like the physician, both the parents and the school authorities must realize, for example, that if rest in bed will reduce the average rate of heart beats by only 10 a minute, the heart will be saved more than 100,000 beats a week. Rest is essential for almost all ailments, just as absolute immobility is indispensable for a broken leg. Every one knows that one cannot walk with broken legs, but some do not realize that one cannot long play tennis or golf with a damaged heart without causing still greater strain or heart failure. It might be added, parenthetically, that by the word heart is really meant the entire circulatory system, including the blood, the blood vessels and the blood pressure.

Naturally, one does not want to indulge in convalescence unduly. The parent, guardian, physician and school authorities will, of course, realize the psychologic advantage of a child's returning to his usual study or play as soon as this is advisable. It is permissible to forget the disease, but convalescence must not be neglected.

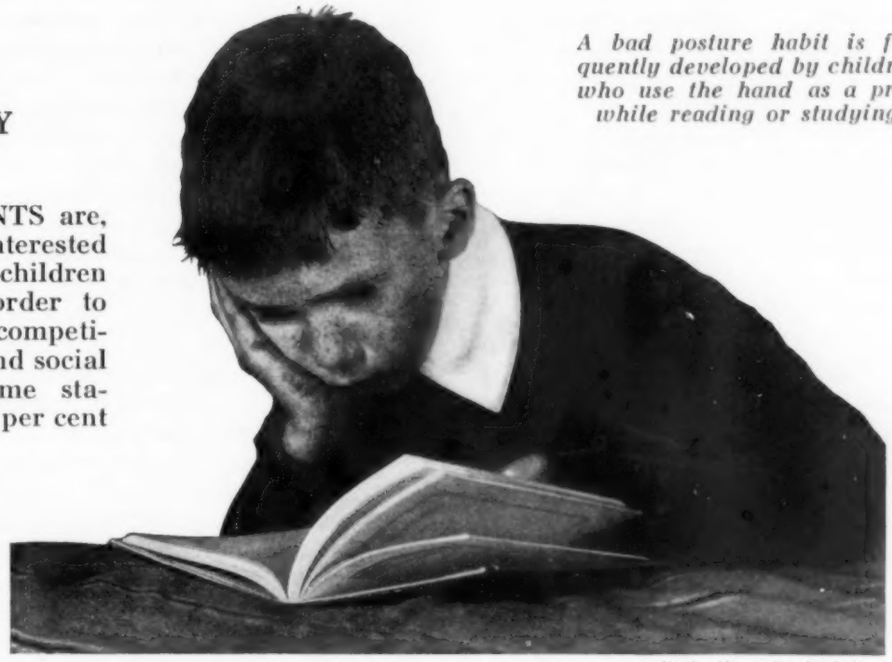
If the convalescence has to be prolonged, it does not have to be in a hospital. A homelike atmosphere is preferable. Judicious use of hospital discipline in home surroundings makes a happy combination that will enable the convalescent to recover more fully.

Getting out too soon, therefore, often causes a long drawn out tragedy. It is often the tragedy of a damaged heart. Every one ought to know that convalescence is like a dose of medicine. The correct quantity of all medicine is the same; namely, "enough." The dose of medicine must be enough for effect. Convalescence, too, has to be just long enough for effect. Getting out of bed too soon after the disease and returning to duties or pleasures too early cause the candle of useful life to burn out too quickly.



Face-Deforming Habits

By
L. B. HIGLEY



A bad posture habit is frequently developed by children who use the hand as a prop while reading or studying.

Ruth Alexander Nichols

MODERN PARENTS are, or should be, interested in giving their children every advantage in order to meet the increasing competition in the economic and social world of today. Some statisticians claim that 50 per cent of any one's economic success depends on his personal appearance, and every one realizes the interdependence of success and health. Without the assets of good health and pleasing appearance, one is often shunned socially, regardless of one's accomplishments, or one may develop an inferiority complex which makes one withdraw from society.

Two of the greatest detriments to this good health and pleasing appearance are facial deformity and irregularities of the teeth. While these may be the result of numerous causes, bad habits are the one cause that can be most readily observed and influenced by an interested parent. Bad habits may produce irregular teeth and a misshapen face so that the dental arches as well as the features, instead of having well rounded, beautiful contours, often present unsightly and displeasing detours.

Habits are a fixed practice resulting from constant repetition. Thompson says, "Given the proper incentive, repetition seems to be the chief requirement in habit formation. At each successive repetition the act becomes more efficient, more mechanical, less fatiguing and less conscious. If repeated often enough, it may be relegated to the subconscious mind entirely." For the child who is just learning, the act of dressing is a difficult procedure and requires much conscious effort. All his mental and muscular energy is concentrated on this one act. The older child or adult, having formed the habit, will dress with his mind occupied with other problems.

It has been rightly said that every human being is a bundle of habits—most of them good, but some bad. Nearly all the habits influencing the correct or the incorrect formation of the face and jaws are established early in life so that the problem resolves itself into a study of these unwanted childhood habits. No matter what the habit is that produces a disfigurement of the face and jaws, the resulting disharmony is dependent entirely on one thing, and that is the mechanical force of pressure.

There are, then, three questions naturally arising: 1. What habits produce this unequal pressure and thus produce abnormalities of the jaws and face? 2. Why should one be interested in preventing such habits? 3. How can one recognize the presence of such habits or prevent them in children?

The habits producing these abnormalities may be divided into three groups, the first of which may be called posture habits.

Posture habits include those which are most disfiguring in their result on the face and jaws. They are acquired rather than instinctive and therefore can be prevented more easily. Chief among these poor posture habits is the one known as pillowing or, in other words, the detrimental positions assumed by the infant or child while lying down either awake or asleep.

It can readily be seen how important bad sleeping habits become when one remembers that the infant spends practically his entire time in the prone position and the child up to the age of 8 or more years averages about twelve

out of the twenty-four hours in this position. During childhood the face and jaws are easily molded by external pressures which, if incorrect, cause a deformity.

Many mothers will lay the infant on his stomach to quiet him and then allow him to sleep in this position; or they will permit the child to rest his head on the hand or arm, or on a wadded or too large pillow, thus causing extra pressure to exert itself on the face. Occasionally the hand or arm is beneath the pillow with the head resting on the resulting bulge. Any of these positions, if persisted in long enough, will produce a serious caving in of the dental arches on the side receiving the pressure, and this results in a distinct facial deformity.

Mothers are familiar with the ease of molding the infant's head into a good shape by laying him in various positions so as to produce pressure on the correct portion of the pliable skull. The binding of girls' feet by the Chinese and the fastening of a board against the infant's head to flatten the back of the skull by the Flathead Indians are good examples of what can be done by external pressure on developing bodies. Because of their complexity during infancy and youth, the face and jaws are even more pliable.

Another bad posture habit is seen in children who use the hand as a prop while reading or studying. This habit is generally acquired during early school years and will result in a deformity if it is carried to excess. This tendency is especially true of the indoor child who spends most of his time reading.

Then there are the posture habits known as mandibular habits. One example is seen in the child who habitually thrusts the lower jaw forward so that it resembles the jaw of a bulldog or takes on the characteristic appearance of a pugnacious face, with overdeveloped chin. In other instances the chin may be permitted to drop down and the mouth to hang open, losing the muscular tone of the lower jaws and producing a deficient chin. Another mandibular habit is developed by allowing the lower jaw to slide to one side, producing a lopsided effect to the face. These habits may be of purely nervous origin or may be caused by some interference when the child tries to bring his teeth together properly. This, of course, should be brought to the attention of a dentist capable of handling such conditions.

The second group of habits may be known as biting habits; these are generally, but not always, of nervous origin. Biting the upper lip may cause the front portion of the upper jaw to be deficient and accentuate the development of the lower jaw, eventually producing the pugilistic type of face. Biting the lower lip, if persisted in, may produce a deficiency in the lower jaw and cause the upper teeth to project forward and be prominent, finally resulting in the "Andy Gump" type of face.

It is hard to realize that the tongue may exert much pressure, but tongue biting may cause enough pressure to prevent certain teeth from erupting to their correct height, thus leaving a space between the upper and lower teeth at the point of pressure; this condition is apparent when the lips are parted. Again, the tongue pressure may be extended over all the teeth, causing all of them to be short and so allowing the jaws to close too far. This gives the face the appearance of that of an older person without teeth. Occasionally, spaces resulting from tongue biting appear between the teeth. Biting foreign objects, such as pencils and pens, causes a local effect at the immediate area of application, generally causing the teeth to be too short or to be pushed out of normal position.

Before going on to the third group of habits, I should like to mention a habit which is not easily classed with others but which operates simultaneously with them. This is the habit of mouth breathing, which is most often associated with the facial deformity previously referred to as the "Andy Gump" type.

Mouth breathing is due to an obstruction of the nasal passages, to a mechanical interference in closing the mouth, or perhaps to both. The mechanical interference is generally due to the upper teeth having been forced into prominence by some other pressure habit, thus keeping the lips parted and resulting in mouth breathing and an overdevelopment of the adenoid tissue as a protection from the cold air entering through the mouth. It is questionable in some cases whether mouth breathing has caused the

Ruth Alexander Nichols

Remove the bottle from the baby's mouth when he falls asleep.

enlarged adenoids or whether the enlarged adenoids have caused the mouth breathing.

The third important group of habits may be called the sucking habits. These are primarily instinctive but may also be acquired. The mechanical pressure produced by sucking the upper or lower lips will result in defects similar to those already described for biting the lips.

It is doubtful whether normal breast feeding or bottle feeding will either help or hinder the correct formation of the jaws and face since so little time out of the day is spent in the act of eating. The bottle baby, however, does not as a rule receive quite the beneficial muscle training obtained by the breast-fed infant, because the artificial nipple, being much larger, allows the baby to obtain his food with much less work. The bad facial results obtained from artificial feeding come, if at all, from allowing the child to fall asleep with the nipple in his mouth after finishing the bottle and allowing it to remain there over a considerable length of time. This, of course, produces an unwanted pressure on the structures of the mouth and chin. Because of the mechanical pressure exerted, continued sucking of any hard, foreign object will cause a deformity of the part receiving the stimulus.

The last habit for consideration is the much debated and time-worn subject of thumb sucking. If any of you parents have read in magazines, been told in lectures, or for any other reason think that thumb sucking will not cause irregular teeth and facial deformity, please forget it. It most certainly will if it is persisted in, and I take issue with any one, no matter how great an authority, who expresses himself to the contrary. The mechanical pressure of the thumb against the hard palate and the hand resting on the chin are enough in themselves to produce a deficiency in the lower jaw and a narrowing and forward thrust of the vault and front portion of the upper jaw, without even considering the added impetus given by the sucking force. If this habit is persisted in, the conditions occur that were previously described in the discussion of mouth breathing.

This mouth breathing, adenoid type of individual is many times somewhat retarded mentally and, if the deformity is not corrected, he at least becomes self conscious because of his appearance. Some investigators think that if the thumb sucking is stopped even as late as the fifth year, the normal muscular forces may correct the condition, but one is never sure that the habit will be overcome at any certain time if it is not stopped at its inception.

Why should one be interested in preventing these habits which produce disharmonies of the face and teeth? Not only is there injury to personal appearance if these habits are allowed to continue, but furthermore the influence of these malformations on health is vital. Irregular teeth predispose the individual to gum diseases,

Ruth Alexander Nichols

The pressure caused by persistent "pillowing" will result in a distinct facial deformity.

such as pyorrhea, trench mouth or Vincent's angina, and a generally unclean mouth resulting from the difficulty in reaching the various areas in brushing. The mouth breathing and enlarged adenoids predispose the child to irritated nasal and throat passages and sometimes to mental sluggishness.

With all these reasons for wanting to prevent such habits, one is naturally interested in knowing how it may be accomplished. Among the many vital points to be considered in this connection, the following are of paramount importance: First, one should know the normal contour of the face and the normal relation of one tooth to the other teeth in the mouth and to their supporting structures so that one will be able to recognize abnormalities. Second, one should be able to recognize what habits cause deformities, remembering that these deformities are the result of excessive pressure.

In order to understand the normal development of the teeth, dental arches and face, and to know what habits cause disharmonies, I should advise the formation of study groups for parents, to which dentists and physicians may be invited for discussion of these problems. What is normal and what causes the abnormal must be recalled to one's mind frequently because it is difficult to remember these things when one does not work with them constantly.

The present-day child specialists and orthodontists, or dentists who deal with irregularities of the teeth and facial deformity, will be glad to impart valuable information and by means of models, charts, drawings, lantern slides and movie, present the facts that one wishes to know about the children much more clearly than one can hope for without such aids.

After the parent learns what is normal and what habits to look for, it then becomes his duty to observe the child closely for habit formation and abnormality without having the child know he is being observed. Furthermore, the parent

should welcome observations and constructive criticism from those outside the family, for often parents do not realize that anything is wrong because the changes may come so gradually. Compare your child with others who are supposed to be normal. Demand that the family physician and dentist are on the lookout for the beginning of such disharmonies and have them advise what is best to be done about them.

If one realizes that a bad habit is present, one should attempt to eliminate it as quickly as possible but should not be overzealous. One should never "jump" at the child and should always be careful about punishing him for habits. These two things tend to overemphasize the act and often result in the child's continuation of them because of the added attention he has received. Instead, with as little agitation as possible remove the thumb from the mouth or the arm from under the head, and if necessary attract the child's attention to something else; then try to study the cause of the habit. Is the child sucking the thumb because he is hungry or nervous or because he is not given other more happy methods of spending his time, or has he simply formed a habit because he obtained pleasure out of the first act and was not guided correctly later?

Improve the baby's feeding schedule if he is hungry, or substitute a good habit for the bad one if possible, but by all means be consistent and never overzealous. One may be surprised how quickly interest in a toy may make the child forgetful of a habit, if efforts are begun early and are made consistently.

Parents who have not realized the detrimental effect of habits until the deformity has progressed too far may derive consolation from the fact that a competent orthodontist can, in many cases, eliminate all traces of the disfigurement.

Brief Healthgrams *from Articles in This Issue*

¶Wild game may be kept free from taint by being properly stored at a temperature below 50 F. for a short time, or at a temperature just above freezing if it is to be kept for a longer time in the storage room. *See page 984*

¶The average Thanksgiving dinner is a grave dietetic mistake. *See page 995*

¶"He must do everything other boys do. You do not want him different from the others," was the keynote sounded by a doctor in mapping out the after-care for infantile paralysis. *See page 1008*

¶In parental blood determinations, in one case out of seven it is possible to say definitely, "He could not have been the father of this child." *See page 981*

¶The binding of girls' feet by the Chinese and the fastening of a board against the infant's head to flatten the back of the skull by the Flathead Indians are good examples of what can be done by external pressure on developing bodies. Facial deformities and irregularities of the teeth result from constant repetition of a bad practice. *See page 1015*

¶The more one knows about the wisdom of the human body, the less one has to fear. *See page 1032*

¶Back fence gossip has made many a prospective mother miserable, filling her with a dread of the "signs," which are spoken of with a hush and a long face, and the "markings," which have no more truth to them than fairy tales. *See page 979*

¶Physical forces were always used in healing, for even the old Greeks and Romans had their sun baths and took some "setting up" exercises; massage is described in Chinese manuscripts antedating the Christian era by 3,000 years. *See page 1020*

¶Illness is a great leveler; of illness it might be said, "It has put down the mighty from their seat and has exalted them of low degree." *See page 977*

¶According to the startling compilations made by a statistician mulling over data of a few years ago, more people in the United States were slain accidentally in their own homes than had lost their lives on the streets or in the waters or throughout all industry. *See page 990*

¶New worlds to explore! New tempting items! Try the lesser known vegetables and make meal planning a grand adventure. *See page 1023*

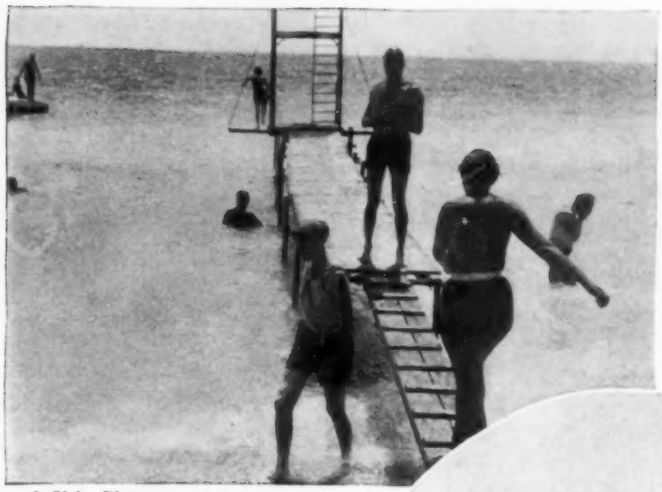
¶Inadequate convalescence may cause the candle of life to burn out too quickly. *See page 1012*

¶Not only did Madame Curie discover radium through her diligent work and study, but with unanswerable logic she stripped the atom of its reputation for permanency, for immortality. She showed the atom itself to be a world in movement, subject to changes. *See page 1004*

¶In the study of disease, animals are to the pathologist what test tubes are to the chemist. *See page 999*

Swimming Now

There is little to encumber the swimmer of today. The beach pictured here is at Deauville, France.



A Globe Photo

And Then

The same beach twenty-five years ago when bathing was almost a dress parade.

A Globe Photo

Underwood & Underwood

"CALORIE AUTOMAT"

One-and-two-and-three. It is a matter of three simple processes in Dresden, Germany, to learn the number of calories the body needs each day. Point to your age, point to your height, turn the handle, and behold the result!

Acme

KING AND QUEEN

Introducing their majesties, Leland Reeve and Caroline Jeanne Mela! These two children were chosen as the most perfect boy and girl in Los Angeles in a competive examination including more than 4,000 babies.

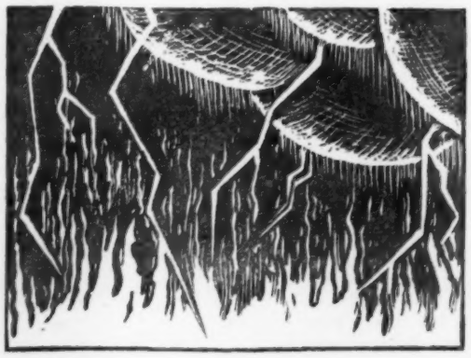
PHYSICAL FORCES IN HEALING

By
Richard Kovacs

THE AVERAGE layman has a merry time keeping up with the practical advances of physical science; he can talk across the ocean, fly across the continent, receive pictures by television, cook and freeze by electricity and dictate his letters to a machine. All this is done by harnessing Nature's forces—heat, light and motion—and turning them into electricity or by using electricity to produce these physical energies. In the science of healing, the same forces are being ingeniously applied for many new effects. The public reads and hears about ultraviolet rays and bottled sunshine, about heat lamps and bakers, about artificial fever produced by radio waves, about muscle exercise and the reduction of fat by electric apparatus and about the removal of tonsils and small and large growths by electric knife and needle. Doctors' offices are being equipped with a maze of glittering apparatus, and hospitals are installing physical therapy departments in which patients get baked, massaged and bathed in water and in artificial sunshine.

Physical forces were always used in healing, for even the old Greeks and Romans had their sun baths and took some "setting up" exercises; massage is described in Chinese manuscripts antedating the Christian era by 3,000 years. Modern inventions enabled the construction of apparatus for the treatment of diseases and injuries by physical forces, and there is now an increasing appreciation of these newer measures alongside those known for centuries. The greatest incentive for their use came during and after the Great War when millions of injured and disabled had to be put back into functional activity within the shortest possible period. It was a revelation to many physicians—and to many patients—to find out in how many conditions it was possible to speed up the healing efforts of nature by use of its own forces: heat, light and exercise.

Consider a painfully swollen knee joint, for instance, which has been severely bruised by a fall or other injury. By careful physical examination and by a check-up x-ray picture, the doctor has ascertained that there is no serious bony injury and no tear in the important supporting ligaments. In older days the patient would have been put to bed in order to get the absolute rest which was considered so necessary for healing. He would have been kept so for days and weeks; possibly even a rigid plaster cast would have been applied around the joint. It is known now that better and quicker return of the use of the knee or any other simply bruised or sprained joint is obtained if immediately after the injury gentle mechanical force—massage or some form of an electric current—is applied to speed up the flow of blood and lymph; this helps to remove some of the fluid in and around the joint which Nature pours out in the reaction against the injury. It is known that this fluid contains albumin which coagulates and serves as a beginning of the well known adhesions—strings and bands of connective tissue in the injured part. The sooner skilful massage is applied followed at a later date by careful exercise, the less swelling will organize into adhesions and the less will be the stiffness and pain following an injury. The use of heat after a day materially helps to relieve pain; it also relaxes the parts, and by speeding up circulation it diminishes the tendency for the forming of adhesions. A simple pack with a hot towel or an electric pad may serve this purpose at home; in the doctor's office, heat lamps, so called bakers and diathermy, a form of electric current producing thorough and penetrative heating, are being employed for this purpose. The patient is encouraged to move the knee, first without putting weight on it and later by regular walking and other exercises. It has been the experience that with such treatment the full recovery from injuries of this kind takes much less time and there is much less pain and disability in its wake.



Heat

The story of an injured joint is an illustration of the why and how of the use of simple physical forces. As an illustration of another kind, one might mention something about artificial sunshine. In undernourished, anemic children there often develops rickets, a dreaded disease

causing the softening of bones and resulting in deformities which may last throughout life. It has been found that children receiving abundant sunlight and proper food recover from this condition. In the dreary winter months there is not enough sunshine for sickly children. If such children are exposed at regular intervals to the rays of a carbon arc or mercury vapor lamp giving off an abundance of ultraviolet rays, a healing effect takes place similar to that which occurs when natural sunshine is applied. The beneficial effect is explained by a change in the skin. Under the influence of the rays, vitamin D is formed, and the presence of this substance enables the blood to take up lime salts from the food and reinforce the soft bones.

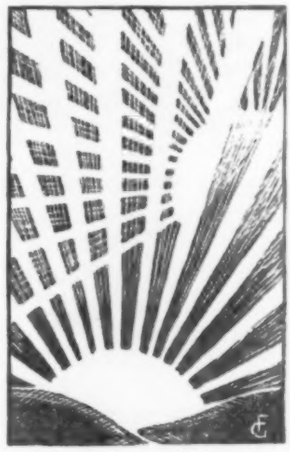
Motion

Painful muscles, joints and nerves in arthritis and various forms of "rheumatism," including neuritis, can be relieved from pain and restored to better function by the skilful use of penetrating electric heat, known as diathermy. Two metal plates are placed on opposite sides of a limb or of the body and connected to a high frequency or diathermy machine. All that the patient feels is a pleasant form of warmth; there is no pain and no jerking of muscles. This electric heat penetrates to the depths of the tissues, much more so than the heat of a hot water bottle or of an incandescent lamp. It will bring on a strong, fresh supply of blood that will help the parts to overcome inflammation.

By the use of the appropriate instruments the physician may bring the action of this electric heat to such a high degree as to be able to dry off or otherwise destroy small and large warts and other growths on the skin, in the mouth and in other accessible body cavities. In skilful hands there is no shock, bleeding or other discomfort. These electric operative methods are being more and more employed. An electric knife has been constructed under which tissues yield like butter under a hot knife. With this, delicate operations on the brain are successfully performed.

The many forms of powerful healing forces, diathermy, light baths and electric exercise of muscles, have brought on a new era in the treatment of arthritis and rheumatic conditions. Many people go to health resorts or to institutions of various kinds for such treatments and many recover; in quite a goodly number, however, no lasting improvement occurs until the whole system has been thoroughly overhauled and suspicious foci of infection are eliminated. Even the general public knows now that the teeth, tonsils and intestinal tract may harbor a motley array of germs whose poison causes these rheumatic conditions. It is up to an experienced physician to find and to do away with these real causes of disease. No side-show healer operating glittering lamps or sparking apparatus, no former bartender or bus driver graduated into the business of manipulating spines can make a genuine diagnosis. A real doctor is needed to do for these sufferers all that can be done for them in a safe way.

Every one remembers the ravages of infantile paralysis in the epidemic of a few years ago, when children were stricken in the midst of the best of health and, if remaining alive, were left with limp arms and legs, helpless to move. Proper exercise, heat and certain forms of electricity have done wonderful work in this and other kinds of paralysis. It is an almost uncanny sight for a person who is not a doctor to see the working of a surging electric current in these paralyzed limbs. Two wet pads are applied to opposite ends of the limb, the current is slowly turned on and, while the little patient hardly feels anything, one muscle after another starts working, and with continued skilful application in many cases active life returns in time in these muscles; the child learns to use them again. Of course, in these afflictions, as in all other cases in which electricity is used, the other important methods of treatment must not be neglected. Proper braces must support the muscles while they continue weak and must prevent deformities that would otherwise follow the pull of the unaffected strong muscles. Electric treatment in proper hands will always be part of a complete skilful medical treatment in poliomyelitis.



Light

Exercise of weak muscles by electricity is successfully used in weakness after fractures, dislocations and other injuries. Ingenious apparatus will exercise muscles of patients with heart trouble without any strain to the heart and so help the general circulation. Lazy muscles can also be worked by these devices and the superfluous fat squeezed out of them. Stout ladies hopefully crowd into so-called "flesh reducing" studios, where they are put on these muscle-working electric couches and into sweat cabinets to be "reduced" to their heart's content. Disappointment follows, however, when they learn that, in order to make the cure permanent, they must keep on dieting and exercising.

Because certain kinds of electric currents enable us to work muscles of the body irrespective of the will, electricity in the hands of an expert is a valuable means of discovering whether a person claiming to be paralyzed is really so or not. The desire to collect "easy money" after some injury or accident prompts quite a number of persons to try to deceive doctors and juries. Among the known tests to prove the healthy state of muscles, there is none more convincing than those made by electricity. Often in an early stage of paralysis following an injury to a nerve, testing by electricity is almost indispensable to the surgeon and nerve specialist. It enables them to determine the extent of the injury, to tell approximately how long the trouble will last and to start appropriate treatment at once.

Unfortunately, there is a great deal of misrepresentation and downright faking going on. Drug stores, department stores and barber shops offer all kinds of wonderful lamps, rays, exercisers and what not. It is the old "patent medicine" game all over again. It took a long time, but the public has finally pretty well found out that self drugging usually is dangerous and at best is useless. Physical therapy, being new and not properly understood by most persons, offers a profitable field for all kinds of exploitation. Beware of the advertising healer and take the advice of your family physician.

Physical forces, if powerful enough to do good, are powerful enough to do harm if used by clumsy hands or by rascals. Women deceived by advertisements promising removal of superfluous hair by x-rays have been disfigured for life; men going to a health studio without a doctor's advice have dropped dead from a weak heart.

It is a good sign that more and more of the medical profession are using these healing forces in the right way in their daily practice and that modern hospitals are employing these treatments. Extensive study along this new field is going on. Just as there is no telling what is to startle the public next in the field of physical science, so may we be prepared for more and more interesting and effective new inventions for the relief of disease and suffering by application of the healing forces of nature, skilfully harnessed and utilized by medical science.

Preventing Deformity After Infantile Paralysis

UNTIL every one knows the importance of seeing the first symptoms of infantile paralysis, and of getting the doctor at once, there will always be a few sad cases in which the child will be paralyzed and more or less disabled, according to a recently issued Canadian national health publication. However, even if the arms or legs are paralyzed, their condition can be improved, and they can be made more or less useful. Put the child directly under the care of a skilled orthopedist.

For about six to twelve weeks, until all the fever and pain are gone, rest is the only right treatment. Make the patient comfortable. Do not expect him to move even to the extent of sitting up to feed himself, for it hurts his back and neck to move the slightest bit. A cradle should be made to lift the weight of the bedclothes off his feet.

Heat is always a comfort and it helps to relieve pain. Support the limbs with splints to give them rest and to keep them from hurting and becoming deformed and useless. His posture is most important, for bad posture means future deformity.

After the first few days a warm salt bath, from 98 to 100 F., is a great comfort, but the child must be lifted on a sheet or a firm board and placed in the bath with the sheet or board still under him, so that the back and neck will not be hurt by the movement. It is easier to move the limbs under water, and some good day the parents will see the child begin to move an arm or a leg that he could not possibly move before.

When pain and tenderness are gone, exercise can be of greater aid. Exercises which the child may take by himself, regularly, systematically and daily, will start the muscles working. Do not allow him to overdo. In fact, most patients do better if they do not try to walk during the first year, unless the muscle can be supported by a brace. The patient should not be allowed to let his legs hang, because the weight of the foot strains the weak leg muscles and makes them worse.

Conditions vary, of course, with the individual and until the patient is discharged by the physician, the orders and instructions given by the latter must be implicitly obeyed. After the patient has been discharged by the doctor, a certain amount of supervision and care in the matter of exercise will still be necessary.

Many of the "do's" and "don'ts" have been mentioned, but the parent must remember that deformity results if the proper splints are not used, and powerlessness follows if muscles are not exercised and developed in the right way. The doctor who has knowledge, skill and training is the only one who is capable of directing the care of the patient.

FOODS--

Their Selection and Preparation

By
E. M. Geraghty

Ewing Galloway

VEGETABLES: II

CONTINUING the study of vegetables, on investigation of other "family" groups one finds many which have so many members and offer such a number of excellent items that one can easily make selections which will appeal to a wide diversity of tastes.

A recently issued book comments on the fact that there is so much unnecessary repetition of vegetables on American menus and so little adventuring in the interesting paths of preparing and serving the less well known vegetables.

With a recollection of the items discussed last month and with the material immediately following this introduction, one finds new worlds to explore. Try these lesser known vegetables and make meal planning a grand adventure.

Corn—the Great American Vegetable

Corn is truly an American vegetable. It grows in any temperate climate but is best known in this country. Ireland and Italy are the only other centers using much of it. It ranks next to wheat as a cereal product and is one of the leading vegetables. There are a large variety of names, but I shall discuss only field corn, sweet corn and pop-corn. The main divisions of sweet corn are yellow and white. The yellow is credited with a greater amount of vitamin A than is found in the white. Sweet corn should be cooked as soon as possible after it is picked, if the best flavor is desired. Field corn yields corn-meal, both yellow and white, corn-starch and corn oil. There are various names applied to corn-meal cooked with water and other ingredients; it is known as stirabout, polenta, mush, johnny cake, hoe cake, spoon bread, corn pone, tortilla and scrapple. Pop-corn contains a great deal of moisture, but the outer shell should be dry, so that there is much resistance to the expansion under heat, with a resultant "explosion" turning the kernels into fluffy white ones.

Basilla is a variety of greens found in the tropics.

Borage is a garden herb of English nativity. The leaves are cooked or used raw in salads.

Chervil resembles parsley in appearance. It grows in the southern part of the United States and in other temperate areas. It is used in seasoning soups, as a garnish, in salads and in sauces. Parsnip chervil or turnip rooted chervil is raised in southern Europe for its root, which makes an excellent cooked vegetable.

Chickory Serves Many Purposes

Chickory belongs to the same family as the endive and the dandelion. There are a number of varieties, and the variety names are loosely used. The leaves are used for salads. The root is roasted and used as an adulterant or substitute for coffee. Chickory grows wild all over the eastern part of the United States. It is a persistent weed with a "leggy" stalk and a beautiful blue flower. A rank, weedy field of Queen Anne's lace and wild chickory is one of the loveliest sights along railway roadbeds.

The broad-leaved salad plant sometimes miscalled French endive is really chickory. It should be served crisp if eaten raw. It is excellent when cooked and served like Swiss chard.

Chinese mustard is grown for the root leaves, which make excellent greens. It is well known

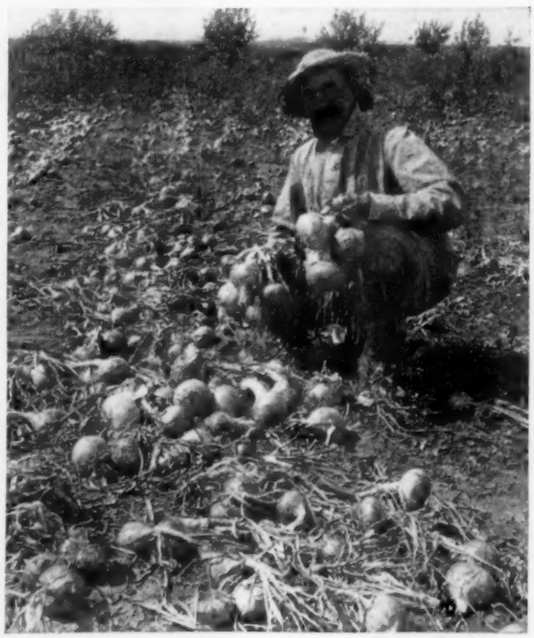
in Chinese markets but is also found in American home gardens. The tuberous rooted variety belongs to another family and resembles white turnips.

Chives are used as a salad ingredient. The flavor is akin to that of the onion, but the greatest asset of this plant is the unusual appearance and the smartness of coloring of the green spikes, which look like hollow tubular grasses. They may be grown in pots like parsley and cut freely. The leaves are used in soups, stews and salads.

Corn-salad is a salad plant with leaves growing into rosettes or heads. The leaves are too bitter to be acceptable alone but make a snappy addition to lettuce or other vegetable combinations. Italian corn-salad has leaves which are lighter in color than the other variety.

Cress is a term applied to a number of plants used raw for salads, garnishes or in sauces. The best known and most widely used kinds are gardencress, peppergrass and watercress. Gardencress is usually notched and indented along the leaf margin. All varieties have a sharp, somewhat bitter flavor. Watercress has a rather round leaf. It grows wild in running water and when grown for market is produced best in ditches well supplied with moving water. While it is best known raw, it is good cooked as greens and accompanying roast lamb, poultry or game.

Dandelions are certainly well known and little liked by those of us who try to have lawns. It will be difficult for me to say a good word for them unless I praise their longevity and the length and diameter of their roots. However, I shall attempt to proceed with a purely academic interest in the matter. The young leaves make excellent greens when cooked with bacon or bits of other pork. Some growers blanch the leaves and sell them as choice salad leaves. The Italian dandelion is one of the larger leaved cultivated varieties.



Brown Brothers

What's in a name? Onions belong to the lily family!

Endive has been referred to in the discussion on chicory. All types of endive belong to the dandelion family. Endive has been cultivated in Japan and China from early days, and today it is found wild in all countries surrounding the Mediterranean. As noted under chicory, the variety names are loosely used and are often incorrectly applied. Curly endive is often erroneously called chicory or curly chicory. Batavian endive or broad-leaved endive is another term for the same plant.

Escarole belongs also to the dandelion family. The leaves of this plant have thick white midribs with broad leaves. Escarole resembles Swiss chard and may be served in the same way.

Fennel is grown largely for the leaves, which are valuable for salads and as a garnish. It is also cooked with fish and in soups. The best known varieties are garden fennel and sweet fennel. The seeds are used to make fennel oil or to season sauces. Florence fennel is grown for the bulbous root, which is eaten raw or cooked.

Lettuce is the best known salad vegetable. It is also a delicate and excellent menu item when cooked like Swiss chard and served dressed lightly with butter. It came originally from India or Central Asia. The varieties known best are head lettuce, cos lettuce and leaf lettuce. Since one uses lettuce mainly to add attractiveness, variety and bulk to the diet, one usually chooses the kind with greatest eye appeal; this, of course, is head lettuce. But with the present-day interest in vitamin content of vegetables, one needs to consider favorably the leaf lettuce, since this is credited with more vitamins than are found in head lettuce. Cos lettuce has long leaves while leaf lettuce has wide leaves of rather coarse texture. Romaine is another term for cos lettuce.

Mint includes peppermint, spearmint and pennyroyal. The mint grown in gardens for garnishing, sauces and beverages is spearmint.

Mustard greens are grown extensively in the southern states. The leaves of white mustard are more delicate than those of black mustard. Pot-herb mustard is used chiefly as a cooked vegetable, although the leaves may be eaten raw in a salad.

Orach is grown as a plant for greens in France and England. There are three varieties, "white," with pale green leaves; "red," with dark red leaves, and "green" with dark green leaves. Other names are French spinach, mountain spinach or sea purslane.

Parsley is today regarded as an excellent source of iron. It is used mainly as a garnish and an ingredient of sauces.

Purslane belongs to the portulaca family and is a garden pest. The leaves are round and

small, much like watercress. The plant may be used as a garnish for salad or cooked as greens.

Radishes are best used raw or in salad. The plant is a native of India. There are long radishes and round radishes. The color range is white, yellow, red, purple and black. Radishes are at their best when young and freshly pulled.

Rampion is similar in appearance to the radish. The roots may be used raw in salad or as radishes are used, or they may be cooked as turnips are cooked. The leaves are acceptable for greens.

Spinach is the best known of the greens. The finest varieties are raised in California. Fresh spinach needs much washing to remove the sand which lodges in the tiny crevices of the leaves. The varieties grown in eastern and middle western parts of the United States often have a minute worm inside the leaf between the layers of cellulose. It is impossible to detect this when cleaning the spinach. Spinach is best known when cooked as greens but is also good as an occasional salad base. New Zealand spinach is another family of greens but is used in the same way as spinach.

Brown Brothers

Summer squash.

Udo is a perennial Japanese plant most acceptable to the American palate when it is sliced thin, thoroughly chilled and served with French dressing. It resembles celery in crispness but has a spicier flavor. If parboiled and cooked in a second water, this vegetable may be served like asparagus.

Cucumbers belong to the gourd family. They are most popularly known as salad ingredients or pickled, but they are delicate when cooked and served as a separate vegetable. They provide bulk and are valuable for their crispness and snap. The English cucumber is sometimes 3 feet in length, is greener than the cucumber and has little seed. The term gherkin is often applied to immature cucumbers, but it should be used only for the species native to tropical America. The true gherkin is from 1 to 3 inches in length and is spiny. It is also called West Indian gherkin, Jamaica cucumber or burr cucumber.

Pumpkin is a member of the gourd family, ranging in size from the small "pie" pumpkin to the large field pumpkin. It is generally used for pie although occasionally cooked and served like squash.

Squash also belongs to the gourd family. The two main varieties are summer squash and winter squash. The summer varieties include (1) cymling, known also as patty-pan, scalloped or bush, both white and yellow; (2) summer or crookneck, both white and yellow, and (3) vegetable marrow, of which there are two varieties: English, which is about 9 inches in length and 4 inches in diameter and has a green or yellow shell and buff flesh with a sweet delicate flavor; and Italian, which is sometimes 20 inches long, spotted, and has a dark green shell and orange flesh. The practice in Italy is to gather the marrow when it is about finger length, for then the flavor is delicate.

Most summer squash is boiled and mashed, baked or fried. Seeds are not excluded.

The winter variety has a much harder shell. The seeds are taken out. The flesh is boiled and mashed or baked and served with butter. Squash pie is a close companion to pumpkin pie. The winter squashes are (1) Canada or winter crookneck; (2) hubbard, which has a dark green shell and orange flesh, and is best baked; (3) marrow, and (4) turban.

Zucchini is the Italian name for one variety of squash.

Chayote resembles squash in flavor and use. It grows in Mexico and Central America, southern California and the Gulf States, especially Florida and Louisiana. It is much the shape of a pear; it is from 3 to 8 inches long and ranges in color from green to cream.

Cibol is a plant similar to onion in flavor but without the bulbous formation of the onion. The leaves resemble chives in that they are used to flavor salads, soups and stews. Cibol is also called scallion, rock onion and Welsh onion.

Garlic belongs to the onion family but differs from it in shape. Instead of one bulb, the garlic has ten or twelve sections known as cloves. It is used mainly as a flavoring in soups, salads, meats and pickles.

Leek belongs to the onion family. The parts used are the stems and the roots. The stems may be served much like asparagus. Salads, soups and stews are the items for which leeks are used most.

The onion belongs to the lily family. Its greatest value lies in its flavor, cooked or raw. Bermuda onions were formerly imported in large amounts, but now the onion-rasing industry in the South, especially in Texas, supplies such large crops that smaller quantities are

imported each year. Spanish onions are large and are mild in flavor.

Rocambole resembles garlic except that the cloves are smaller and milder. It is also called sand leek.

Shallot belongs to the onion family. The size varies from that of a walnut to that of a fig. The method of growth is comparable to that of garlic, there being several "cloves" on each stem. The flavor is stronger than the flavor of the onion, but at the same time it is smoother and less "raw." The young shallots may be secured from July on, but, like the onion, this vegetable may be secured in the dried state throughout the year.

Eggplant comes from India but grows prolifically in the West Indies, southern Europe and all through the southern part of the United States. The fruit is shaped like an egg and is a lovely purple color. It is best served fried or broiled or with a tomato sauce. Aubergine is another name for eggplant.

Peas are called the aristocrat among vegetables. Green peas, dried peas, split peas and canned peas are the kinds best known. If green peas are not cooked shortly after being picked, they lose their delicacy of flavor.

Potatoes Did Not Originate in Ireland

Potatoes are of two main varieties, white and sweet. The two, however, do not belong to the same family. The white potato is a native of Chili, Peru and Mexico, but it is now grown in England, Ireland, Scotland and northern Europe. The United States and Canada both raise a large acreage of potatoes. Potatoes retain most of their nutritive value when cooked in the skin.

Sweet potatoes are native to tropical America, but they are grown extensively in the southern part of the United States, the East Indies, the Philippines and southern Europe. Sweet potatoes are of two types, mealy and moist. Sweet potatoes may not be kept at the same temperature used for other vegetables; the proper temperature for them is between 55 and 65 F. The name potato is often misapplied. "Canada potato," "Chinese potato," "Indian potato" and "Spanish potato" are, respectively, Jerusalem artichoke, yam, tuber of the sunflower and sweet potato.

Mushrooms have little nutritive value but are an excellent menu item because of their fine flavor when well cooked. Because of the ease with which they are produced and the readiness with which they are accepted on the market, they are assuming a much greater place in American commerce than formerly. They are at their best when broiled and dressed lightly with butter.

Rutabagas resemble turnips in form and flavor. There are both yellow and white varieties. Swedish turnip is applied especially to the white variety. Turnip rooted cabbage is another term applied to rutabagas.

Turnips are one of the old vegetables. They range in size from that of a large potato to larger than a pumpkin. The white turnip has the most delicate flavor. Like the carrot, small, fresh, crisp turnips are good cut in strips and eaten raw. They are usually boiled and mashed or cut in cubes, boiled and served with a dressing of butter. Turnips provide bulk and minerals in the diet. Turnip tops are well known in the South as greens.

Tomatoes Are Rich in Vitamin C

The tomato probably came from Mexico or Peru. It was formerly called love-apple and was considered poisonous. It belongs to the nightshade family as do the capsicum and the potato. It does not grow well in England but may be produced throughout the United States. Its greatest value to us is as a source of vitamin C. It contains free acid as follows: malic, 0.48; citric, 0.09; oxalic, 0.01. There are many varieties of the little used or fancy species, such as currant, which grows in long clusters; cherry or grape, which is borne in bunches, and pear, which is shaped like that fruit. These are used mainly for salads and in pickles.

The tree tomato comes from the West Indies and South America. It is about 2 inches long, oval, striped and purplish red. It is used much as are other tomatoes.

Basil is an Indian sweet herb with a flavor similar to that of cloves.

Savory is a small aromatic annual herb used fresh and dried as a flavoring for soups and sauces. Summer savory is another term. Winter or mountain savory is a low-growing perennial used for the same purposes.

Capsicums are bushy plants bearing large pods with few seeds. There are two main varieties, small, hot flavored capsicums, known as chillies, and large milder ones, known as peppers. Chillies are used whole in pickles and are ground into cayenne pepper. Peppers are used as a vegetable or ground into red pepper and paprika. Capsicum extract is used in some grades of ginger ale. Pimentos are a Spanish variety of capsicum.

Bamboo shoots have become familiar in this country through patronage of Chinese restaurants and canned foods from the Oriental shops. The flavor suggests the artichoke. They may be served much as one serves asparagus or like French fried potatoes. They are used most often in chicken stews.

The dasheen is a tuber somewhat like the Hawaiian taro. It is grown in the southern states. The dasheen resembles the potato in general appearance but is more like the chestnut in flavor. It is valuable in areas in which potatoes will not grow. A single dasheen may

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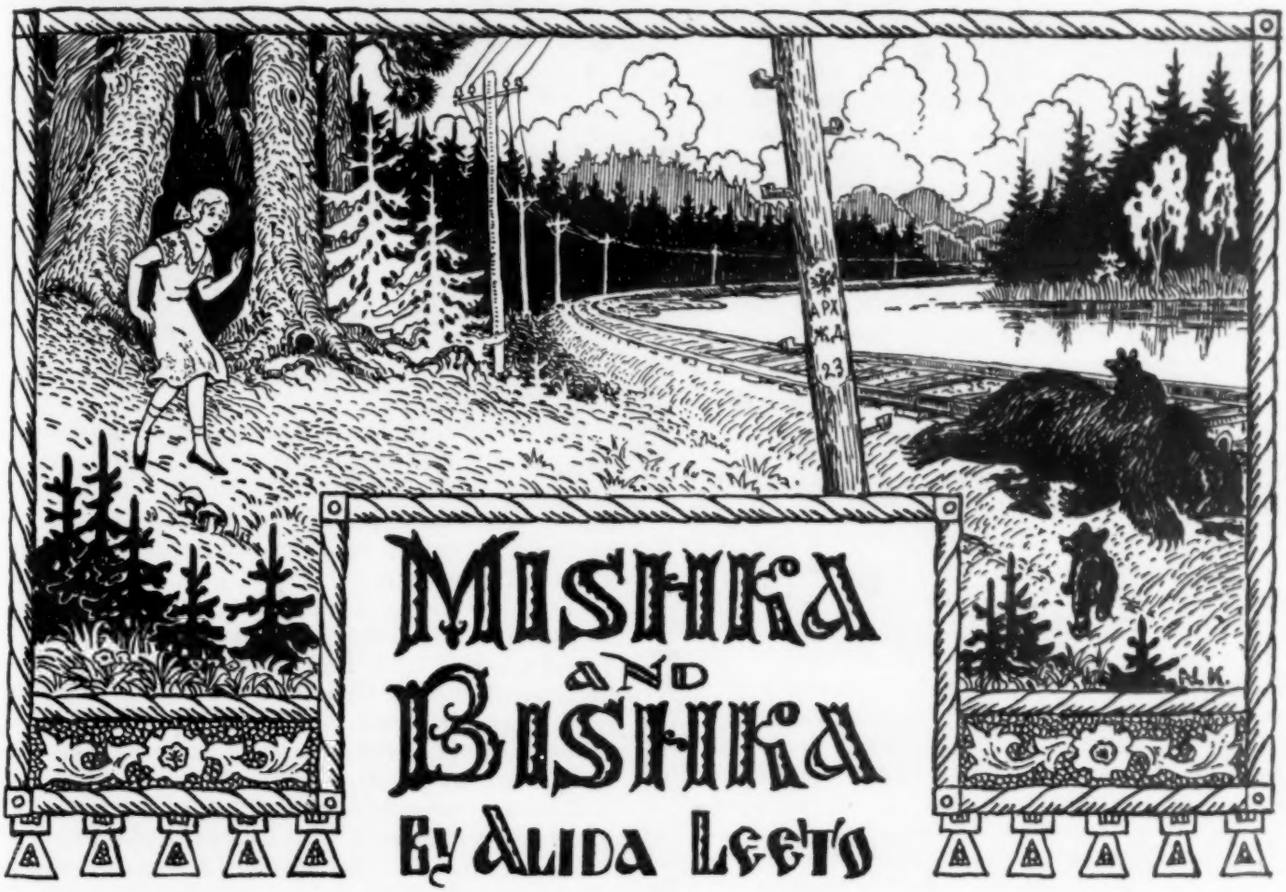


MISHKA AND BISHKA

By ALIDA LEETO

THEY were my playmates and my companions. I shall tell you from the beginning how I chanced to find them. My uncle's estate was in northern Russia; it was located quite a long distance from St. Petersburg. He had inherited this large country house surrounded by thick dark woods. He did not live there all the time but went there in early summer to get a rest from big city life. He preferred to arrive after the snow had gone when everything began to come to life.

He confided to me many of his secrets. His main secret was the love of nature. By that he meant trees, flowers, murmuring rivulets, brooks and animals.

Why he always took me along to his country place, I understood many years later. As a child I liked to be in his company, for he had always something interesting to tell me, a tale about flowers, birds or four-footed animals. People did not seem to interest him much. I know that he saw them enough in the big city.

One summer he could not open his bedroom window because, as he had come to the country later than usual, the swallows who had arrived before him had started to build their nests in the upper corner of his window. He did not have the heart to destroy the new home of those loving innocent birds. No, not my uncle. He made me watch them to see how they built their nests out of mud and weeds, which they found in plenty in the woods.

He even made me get up once in a while during the night, when there was moonlight. He would take me into the clearing in the woods, quite a distance from the house. I was not afraid in the thick forest. My uncle could always find his way anywhere among the trees. He could recognize them from the distance, possibly even smell them.

The rabbits liked moonlit nights. They came in the clearing. They brought their little ones and played with them. It was beautiful. I felt like a princess that time, a fairy princess indeed, because the animals saw us and were not afraid of us. We sat and quietly watched them.

When I became sleepy, I used to lean my cheek against my uncle's knee; but I kept my eyes open to watch and drink in the beauty and mysterious charm of the moonlit night. The nights are really never dark in the north.

One day my uncle's face was sad, and his eyes had a mysterious sorrow in them. He told me that the government was offering him money, money for letting them build a railroad through his woods, along which trains would run to the distant cities. Through my uncle's woods was the shortest way to lay the tracks; it would save the government a great deal of expense. But why was he sad? My eyes and mouth kept asking him.

"Don't you know, Alida, that the animals, our playmates, are there? They are not really wild

after you have won their confidence that you will not hurt them."

"Yes, uncle, but the train will not hurt them either; it will just pass quickly, and it is gone."

"Yes, it will pass through the woods fast, make noise, endless noise with its shrill whistle; it will echo through the peaceful woods and frighten all the animals. We shall never see them at play again. Do you understand?"

"Yes, I understand." Tears trickled down my cheeks. He took his handkerchief to dry them.

Suddenly a happy idea came into my little head. I pressed his hand against my cheek. "Uncle, tell the government you are not going to let them build a railroad."

"Ah, child, I cannot tell the government anything. It is for the good and progress of the country, they will tell me."

So we had to sacrifice the peace and beauty of the untrodden woods for progress.

He did not go to his country place for a few summers after that. My uncle's wish had been to have me grow into a healthy and strong human being. My parents could not have gone with me. My father's business prevented him from leaving the city. His work began in the spring and was usually in full swing during the summer months. He was an architect and a contractor, builder of houses and of homes.

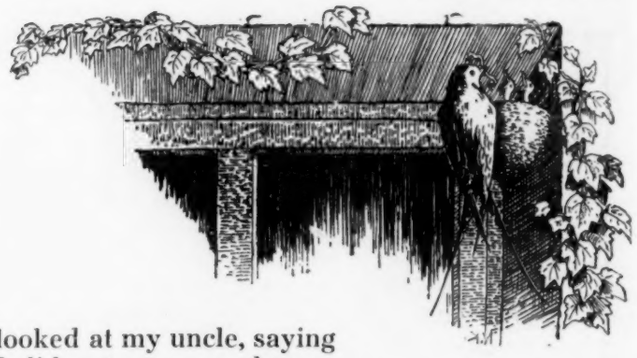
I kept on asking my uncle to take me to the country. He shook his head, telling me that he could not, that he did not want to; but he promised to take me along if he went.

The school kept me busy, but my mind was in the woods. I was waiting patiently. I had not forgotten the summer spent in the country.

I had worked conscientiously at my lessons so that I should not have to study during the summer months to catch up with neglected lessons. I preferred to have my mind at ease during my stay in the country. The gorgeous sunshine and fresh air had supplied me with plenty of energy, and it was a pleasure to concentrate on my studies. I seldom had a cold during the winter months and did not have to miss school.

At last the day arrived. It was the end of June. I suppose it had taken him longer this time to make up his mind.

The big house was in its old place; there were the brooks, the fruit orchard—everything was the same. I



looked at my uncle, saying I did not see any change.

"Wait, child, soon enough; we shall go and see," he answered.

We came into the clearing, which had been the playground for our rabbits. Now I saw plenty of dark yellow sand, piled up high. Iron tracks were on top of it, stretching far, as far as the eye could see, bordered on both sides with tall pines and birches.

We sat down on the soft moss under the trees. My uncle had never encouraged me to pick flowers. He told me to watch them grow, because it would be better for me in the long run; it would develop in me the love of nature. I had respect for my uncle's wishes. He had taught me so much about nature.

This summer he seemed to be busy with a great many things, giving orders to the workers. I was left to shift for myself. I was curious, as most healthy children are. I was 12 years old now. I wanted to find out where the railroad went, so I made up my mind to find out, to walk to the distant city to see if it had been worth the trouble that it had caused to build that road.

Suddenly I saw in front of me a bear, a big brown bear on the tracks. It was motionless—dead. But what was moving nearby? Surely there was something alive. I moved closer. There were two cubs, trying to nurse, to get milk from their mother's breasts. They worked impatiently with their little paws. I went near to look at them. They did not seem to be afraid of me. I took courage enough to pet them. They began to suck my fingers and lick my hands. I felt sorry for them. Possibly they did not know what tragedy had befallen them. The train had killed their mother. In my imaginative mind I was trying to figure out why the mother had gone on the tracks to meet her death. She must have thought the train was a big animal who disturbed her little ones every night when they were asleep. She was a good mother, ready to protect her little ones so that they would not be frightened any more by the shrill whistle.

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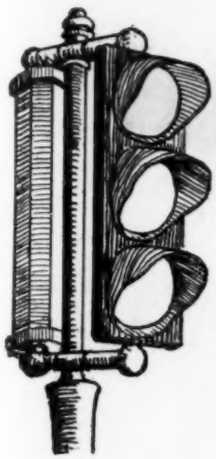
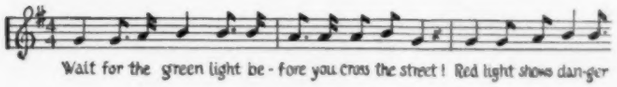
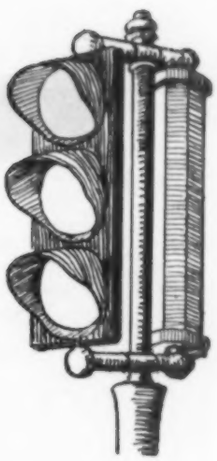


Wait for the Green Light *before You Cross the Street*





By
SUSIE W. McGOWAN

"HEY, JACK, where are you going so fast?" inquired Bob. "I never saw you in such a hurry before!"

"Me? Why, I'm going to the hospital."

"I thought so, too, a minute ago. If I hadn't called to you, you might have gotten there sooner than you planned. I guess you must have forgotten the Green Light song we learned at school last week," reminded Bob.

"I do too remember it," Jack replied.

"Who are you going to see at the hospital?" Bob asked.

"Jim Anderson. Didn't you know about it?" questioned Jack.

"I knew he got hurt not waiting for the green light, but I thought he was just scratched and scared. I didn't know it was that bad. Were you there when it happened?"

"Was I!" Jack exclaimed. "I was right there, standing by him. We were waiting to get across when we heard a plane. You might have thought he'd never seen one before, and instead of looking at the light he looked up at the plane and walked right out in front of a truck and—well, you should have been there! His head was cut wide open across the front, and they had to take six stitches in it. One leg was broken and —I think that was all."

"Well, don't you think that was enough for one time? I guess he thinks so. He won't be able to play on the team any more this year, anyhow. I bet he's feeling bad about it. I believe I'll go with you to see him."

"Fine! Come on," said Jack, "I know what we'll do."

"What?" inquired Bob.

"If he's not too sick, let's tell him about the Green Light song. Maybe he'd like to learn it."

"Let's," Bob answered, "but we'd better practice it as we go along."

They had reached the great gray building before the song was finished.

"May we see Jim Anderson?" Jack asked of the white-clad nurse at the desk.

She summoned another nurse, who led them around corners, through winding corridors and past doors slightly ajar, through which they could see beds, beds, beds.

"Huh! Can't say I like this hospital smell, do you?" sniffed Jack.

"Not much," whispered Bob, "and did you ever think there were so many sick people in all the world?"

"Boys," said the nurse, who had overheard their remarks, "this is only a part of one big hospital. All the patients on this floor are here because they have had accidents of one kind or another, and in most cases the accident could have been prevented if they had only kept their eyes and ears open."

"Company for you, Jim," she continued, as she reached the door.

It was a Jim much worse for his experience who appeared to the awed gaze of his two chums. Although the cut on his head was healing, there was still an angry jagged line where the stitches had been taken, and the broken leg ached so that Jim was glad he was not a centipede. Nevertheless, he was delighted to see Bob and Jack, and he greeted them with a grin and a "Hey, fellows!"

Five pairs of eyes brightened in the room as the five other boys of various ages and in varying stages of convalescence turned to see who the visitors might be. It was not long before they were all talking at one time about football, baseball, airplanes, automobiles, accidents and other things of interest to small boys.

"Oh, say," said Jack, "we learned a dandy traffic song the other day. It just sings itself."

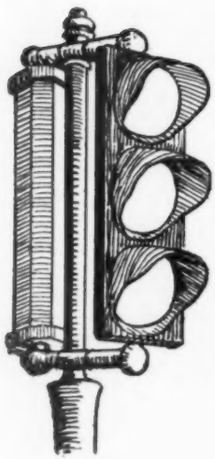
"Let's hear it!" the boys suggested.

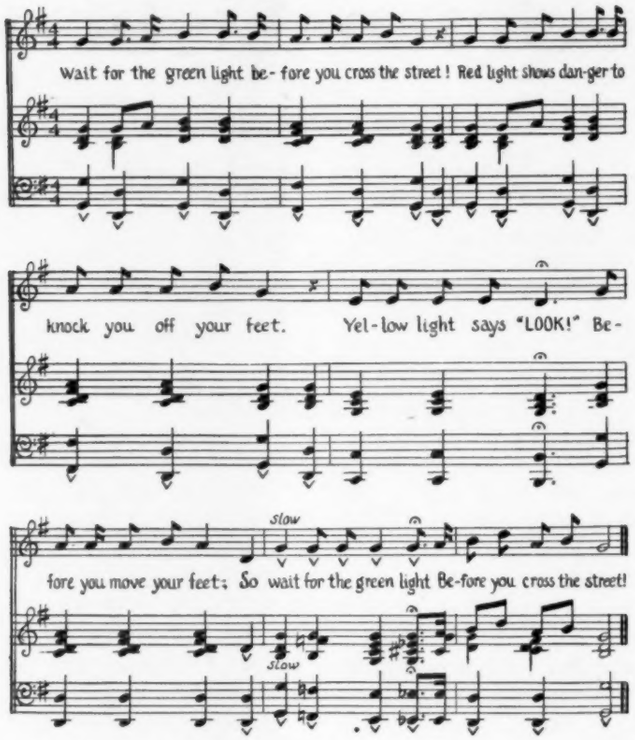
"Want to learn it?" asked Bob, "We'll teach it to you. Come on, Jack. Now, here goes. We'll sing it first, then you try it with us."

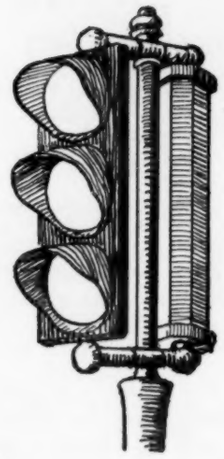
Wait for the Green Light

TRAFFIC SONG

Words and music by REV. JAMES H. TAYLOR, D.D.
Washington, D. C.




Wait for the green light be- fore you cross the street! Red light shows dan-ger to
knock you off your feet. Yel-low light says "LOOK!" Be-
slow
fore you move your feet; So wait for the green light Be-fore you cross the street!
slow



Copyright, 1927, by Rev. James H. Taylor, D.D.

"Hurrah! that's a good one," chuckled Jim. "Let's all learn it."

"May we learn it with you?"

There in the doorway stood the nurse, and with her were at least ten boys and girls, some on crutches, some with heads bound up and some with arms in slings.

"They heard the song and wanted to learn it too," explained the nurse.

So, with Jack and Bob leading, the chorus rang out merrily. The children were sorry that their young music teachers could not stay longer. "Come back tomorrow, and we'll all sing it again," called the children.

And when tomorrow came, and Jack and Bob reached the door of the ward, they were greeted by a lusty chorus of "Wait for the green light before you cross the street."

"Say, you fellows," said Jim, as his broken leg gave a twinge, "I wish somebody had made up that song before I tried to run over that old truck."

Mishka and Bishka

Continued from page 1028

This was her end, and here were her babies, making friends with me. I picked them up and carried them to my uncle's house.

I called them Mishka and Bishka. My uncle did not scold me for bringing them. He thought that had been the only thing I could do. We raised them on milk first and later on vegetables. I have never had as much joy in raising pets. They became my playmates. They even used to climb on my swing with me. They learned to follow me around, wherever I went, even to come after me through little brooks.

One of my uncle's workers suggested to him one day that he should sell them to a circus owner; he would get plenty of money for them.

I had never seen my uncle's eyes shoot flames as they did then. He looked hard at the worker and said, "I will not sell them into slavery."

Each spring I became impatient with the anticipation of leaving for the country to see my playmates. They were like tame dogs now; I could not see any difference. They were just as happy, playful and loving toward me—Mishka and Bishka, my two comrades.

New Books on Health

GOOD LOOKS FOR GIRLS

By Hazel Rawson Cades. Price, $2. Pp. 190. New York: Harcourt, Brace & Co., 1932.

THE AUTHOR is associate editor of the Woman's Home Companion. Most of this book consists of material published in the American Girl and in the Woman's Home Companion during the last three years. The chapters are short. Most of the material is quite rational. There are certain suggestions about exercises to avoid wrinkles which are hardly likely to bring about the result for which they are recommended. It is far more likely that facial expressions are constitutional than cultivated. The advice on cosmetics is probably good advice on cosmetics, but it is questionable whether the custom of putting colored pastes on the upper lids has any real virtue and, in the opinion of this reviewer at least, it adds little to the attractiveness of those who indulge in this type of make-up. It should, of course, be realized that most habits so far as they relate to cosmetics are merely temporary artifices and that the styles are likely to change any minute. It seems that, "Older girls often prefer liquid polish, which gives a more sophisticated look to the nails." The word sophisticated in this connection is an absolute inspiration. The Greeks had a better word for it. The author wisely remarks that it is a nuisance always to be taking up or letting down the skirt length to the whim of fashion. It may be a nuisance, but it has its qualities. Altogether, the book says very nicely what every girl knows.

MORRIS FISHBEIN, M.D.

A THOUSAND IDEAS FOR MOTHERS

By Helen Jackson Millar. Price, $2. Pp. 185, with illustrations. New York: Century Company, 1931.

ACCORDING to Mrs. Millar, who is herself a mother, this is a book of "tricks of the trade" in raising children. She has made a collection of a thousand ideas and suggestions for mothers, covering a wide range of general classifications which are grouped into twenty-two chapters. Some of the chapters are divided into as many as eight subdivisions. An index would have made the brief paragraphs more accessible.

Most of the ideas are simply devices for making the home routine run more smoothly, for protecting children against common household accidents, for inducing them to eat proper foods, for improving their manners and conduct and for lubricating the machinery of family life. In general the book should be a splendid handbook to have in the house, though there are some devices, such as substitute coffee brewed from toast, which do not seem quite sound. It is better to teach children that coffee is not for them and to let them know the reasons than to give them substitute "coffees" which are not coffee. A work-table shelf is described which is hinged to a window sill, and the accompanying illustration shows a child working with water-colors while facing the light, which is obviously bad hygiene. In the matter of child training, devices that involve the giving of prizes are set forth almost side by side with others that condemn prize giving as evidence of poor psychology. The worst suggestion in the whole book is found under the heading of first aid, where advice is given to try dislodging a foreign body in the nose by compressing the opposite nostril and blowing hard. This is about the surest way to favor the development of sinus disease and infections of the ears.

The chapter on wholesome candies and the one on party refreshments are excellent, as are those on rainy-day amusements and devices for teaching children to get along with one another.

As a whole the book is good, but subsequent editions could be improved by submitting health and dietary suggestions to a pediatrician for advice.

In reading the book consecutively, one is unfavorably impressed with the small type. Perhaps this objection will not hold if the book is referred to only occasionally.

W. W. BAUER, M.D.

MATERNITY HANDBOOK

By The Maternity Center Association. Price, $1. Pp. 178. Illustrated. New York: G. P. Putnam's Sons, 1932.

THIS little book, in a cheerful blue cover with a Della Robbia bambino on the jacket, strikes a blow in the first paragraph for equality of the sexes from a new standpoint by announcing that it is written, not only for expectant mothers, but for the hitherto unimportant fathers because "the father, as well as the mother, is responsible for the care of their baby."

It means what it says, too, because throughout the book the father is frequently remembered, usually with advice about how to make life more livable for the expectant mother during her pregnancy.

The book is written in words of one syllable or, if any more expensive words do creep in, they are promptly put in their places by explanations in shorter and plainer terms. The book takes for granted that the reader is starting out without information and, consequently, it leaves little or nothing to conjecture. The descriptive text is supplemented with diagrams, such as how to arrange the kitchen for the baby's bath; how to prepare, sterilize and wrap dressings and other supplies for home deliveries; how to arrange trays for the care of mother and baby; how to improvise cribs and, in fact, how to adapt the every-day articles in the every-day home to the care of the new-born baby.

There is a chapter on babies' clothes, with patterns, and also one on mothers' clothing, likewise with patterns. The chapters are brief and easily understood. Any woman with an eighth grade education should approach motherhood with intelligence and fortitude after reading this book. And even father may consider himself of a little more importance than has hitherto been the custom pending and following the arrival of an heir in the family.

Throughout the book emphasis is placed on the importance of early and continuous medical supervision.

The reasonable price of the book should put it within reach of any one, and every young couple expecting a first baby will find it useful.

W. W. B.

HEALTH and the SCHOOL

Edited by J. Mace Andress, Ph.D., 67 Clyde Street, Newtonville, Mass.

A Key to the Teaching of Hygiene

LAST MONTH I presented to readers of HYGEIA a discussion on "Conquering Fear in Health Education." Ever since the beginning of the mental hygiene movement this has seemed to me to be one of the major problems of health education. I am led to carry this thought over into this month's editorial because of my enthusiasm for a stimulating volume which deserves to rank as one of the best scientific books of the year. I refer to "The Wisdom of the Body" by Dr. Walter Cannon of the Harvard Medical School. This intriguing volume bears evidence of broad and mature scholarship and impresses the reader with the charm of the author's style, his figures of speech and his choice of words whereby he expresses profound truths so clearly and directly that any intelligent layman or teacher may understand his message.

A Remarkable Machine

As I finish the last chapter, one of the most suggestive in the book, and vainly wish that there were more, I am impressed by the marvels of the human body. What a remarkable machine it is! What wisdom it employs, even if it is in an automatic fashion! The book is a challenge to all persons engaged in health education. Dr. Cannon himself only vaguely suggests the relation of his conception to the practice of hygiene. He is interested largely in showing the reader how wisely the body performs its labors. The challenge that I get from this book is that man should match the automatic wisdom of the body with his own conscious intelligence so as to help the body in its work. Teachers of hygiene, especially those in the upper grades and in high schools and colleges, might take this point of view as a key to their work. Certainly the more one knows about the wisdom of the body, the less one has to fear.

The wisdom of the body as presented by Dr. Cannon is so remarkable that one wonders how any one ever gets sick or ever happens to die. The structure and functions of the human body are the result of the millions of years that man has lived on this planet. His stubborn and successful fight in facing the dangers of his environment has mirrored itself in the mind and body. The reserves of the human body indicate that it is capable of meeting stress and strain. The body is not built on the principle of niggardly economy. Like the skilled engineer the body counts on a liberal margin of safety.

The Margin of Safety

We think of the vital organs as being so important that the least injury to them may prove fatal. Dr. Cannon shows that because of wide safety margins this is not necessarily so. For example, life may continue though a great part of the lungs is destroyed. In pneumonia, for example, one lung may become solid without dangerously interfering with respiration. Half of the pulmonary area may be removed, and still one lives. Dr. Cannon says that in the lungs the factor of safety is at least 2. The blood as it leaves the lungs on its journey to the tissues carries about three and a half times as much oxygen as is needed. One of the kidneys may be removed or two thirds of each kidney may be removed without serious disturbance of the kidney function. The liver may go on with its work even when three fourths of it has been removed. It may be a surprise to some to know that, important as the brain is, large portions of it may be removed without appreciable change in mental characteristics or function. In some organs the margin of safety is as great as 15.

Most of Dr. Cannon's book is devoted to the working of the body. In studying normal bodily functions, one is certain to feel that one's body is under safe automatic control and that if one gives it a fighting chance, one will be able to live healthfully.

How well the body protects itself against fatigue! If it did not, it would soon wear itself out. Consider the heart, for example, an organ that must keep persistently at its task. When it is beating at the moderate rate of 70 pulses a minute, it is really contracting only nine hours in the twenty-four. The rest periods total fifteen hours every day.

Activity is not continuous even in parts of an organ. The muscle fibers take turns in keeping up a long pull. When capillaries are not needed by the blood, they close down, and as blood is required, they expand. The glomeruli of the kidneys operate in shifts. The work of the internal organs is so well regulated automatically that the phenomenon of fatigue seldom appears. The central nervous system alone may force action so as to bring about the limitations resulting from fatigue. It is fatigue that puts a check on excessive activity. Although Dr. Cannon does not suggest it directly, it is clear that one may cooperate with the body by taking enough rest, sleep and recreation to keep the body fit.

The Powers of the Blood

The blood is the vital fluid of the body and is stable. If the amount of sugar decreases beyond a certain amount, the individual will have convulsions and die. The reason this does not usually happen is because sugar is drawn into the circulation from the liver and the tissues. If there is too much sugar, it may be drained off through the kidneys. Automatically, the amount of water, salt and calcium is controlled. If there is an injury and loss of blood, the blood is made to clot faster and faster as it escapes from the body. If there is an invasion of disease bacteria, they may be devoured by leukocytes or affected by antitoxin. Sometimes they are made harmless by being surrounded by hard tissues. Innumerable examples might be given of the way the body grows, repairs and protects itself.

The body can largely take care of itself. The natural processes alone are powerful factors in producing health. They explain the efficacy of some of the numerous methods that

have been employed to cure disease, from tom-toms to modern mental cults.

Teachers of hygiene would find an interesting approach to the teaching of hygiene if they would try to find out how they may cooperate with the wisdom of the body. To do this they may make use of a good deal of knowledge of anatomy, physiology and chemistry. It would be a fascinating approach and would tend to unify the knowledge acquired. Real cooperation is finally to be gained, of course, only by conduct, not by mere knowledge.

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

PLAY DAY AT A STATE NORMAL SCHOOL

PLAY DAY at the Maryland State Normal School at Towson is known as Student-Faculty Play Day. When the trumpet calls across the campus, not only students leave the laboratories and the libraries, but members of the faculty also clear their desks and disband their conference groups to participate in outdoor sports. This is the day when all instructors and all students, men and women, and freshmen, juniors and seniors play together.

Play day comes annually or semiannually at the Maryland State Normal School. The date is decided on by student vote, so there have been as many as two play days in some years. Succeeding students, however, have agreed with those of several years ago that if there is to be one play day only during the year, it should come in October. There are two reasons for selecting a date in October; first, play day is a wonderful aid in helping faculty and students to become acquainted. Playing together makes it possible for the 350 freshmen who have entered in September to learn to know many more instructors and upper classmen than they could possibly know, otherwise, in so short a time. Second, balmy spring days of themselves lure one outdoors, but crisp October does not always accomplish this. If play day, however, begins at noon in the warm sunshine, the autumn days need no further recommendation.

A play day requires careful planning. The aim of the day itself, joy in physical activity and good sportsmanship for all, serves as a desirable guide in making arrangements. Every one is invited to participate in the first events of the day—the grand march and the mass games. For the many other events that follow the mass games, students and faculty sign up ahead according to their wishes. Out of these groups the athletic managers organize teams. Since play day is to recognize good sportsmanship, freshmen, juniors and seniors play on mixed teams. A play day program and diagrams of the field plan show the events of the day.

The play day program for Oct. 15, 1931, follows:

1. *Assembly.*—Freshmen on York Road side facing south; seniors on dormitory side facing south.
2. *Class Cheer.*—Facing center.
3. *Grand March.*—To the center and down in eights; State Normal Band at north end, first eight to right; second eight to left; down in sixteens and stop in midfield.
4. *Group Singing.*—"Stand Up and Cheer."
5. *Announcement.*—Watch the leaders in your circle.
6. *Mass Games.*—In the circles: "Looby Loo" and "Did you Ever See a Lassie."
7. *Assembly.*—At assigned stations for team games.
8. *Team Games.*—Croquet, cage ball, indoor baseball, ping-pong, volley ball, dodge ball, deck tennis, badminton, horseshoes, run and catch.
9. *Hockey Game.*—Freshmen and seniors.

ANITA S. DOWELL,
Towson, Md.

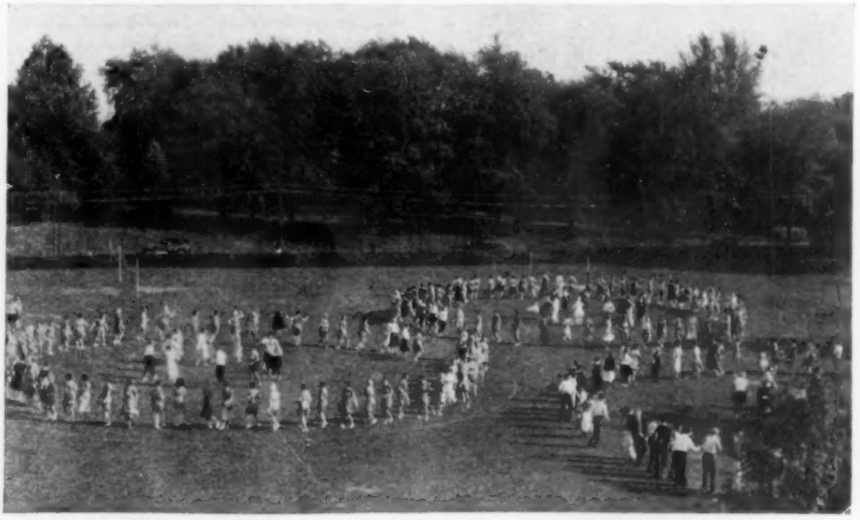
CHILDREN HELP EDUCATE THE COMMUNITY

HOW THE school can assist in improving the health of the whole community was illustrated in the village of Plymouth, Ohio. The teacher of the seventh and eighth grades, a college student working for his medical degree, thought it a good time to study in civics the water supply of the village while a campaign for a bond issue for its improvement was being waged.

Eight years before, a similar issue had been voted for the installation of a filtration system and other improvements deemed necessary; but when prices soared, the matter was dropped. This time, too, the issue carried, but in such a way that the community was convinced that the improvement would be cheap at any price. For to every argument against the expenditure of funds, the children marshalled some startling facts; and every one recognized that they knew what they were talking about, for they had investigated every source of water, had even classified every well in the village.

Through several miles of farming lands, the class had followed the creek from which the central water supply was obtained. They found all the farmers near the creek blithely draining their sewage into it. Farm animals came down to it from the pastures to drink, and the surface water from the fields ran into it. In several places they found it running close to barnyards and pigsties, and at one place close to a swamp that continually overflowed into it. In it fish and water animals, muskrats, turtles and crabs disported themselves; and, muddy and dirty as it was, boys used it for a swimming hole. Stagnant in summer, exuding a frightful odor, choked with green scum—"Behold Plymouth's water supply!" exclaimed the children. No, it certainly was not healthy!

But how to improve it? A number of persons were vehemently in favor of using an abandoned stone quarry near town which was filled



Play day in fall has the advantage of acquainting pupils with each other and with faculty members.

October is a good month for a play day, because it lures to the outdoors those who formerly feared its crispness.

with clear, cold water. So the class investigated that source, but found the water quite inadequate as to quantity and so hard that it would never do for laundering purposes. Therefore it was decided that the use of the quarry was inadvisable. Other solutions were to use springs near at hand or to drill city wells, but on investigation these were found to be impractical, too.

Finally the pupils listed ways in which the existing supply could be improved: Domestic animals could be fenced out, and fish and water animals removed; bathing and skating could be prohibited, the dumping of sewage into the creek could be terminated, and the swamp could be filled. They decided at last that the best plan would be to correct as many as possible of the unhealthy conditions surrounding the creek and to add a filtration plant to care for the rest. This led to the development in class periods of a standard for satisfactory city water which included the items of abundance in the supply at all times and freedom from pollution, from unpleasant taste and odor and from minerals in any great quantity.

The class visited the central pump house and pool in the creek, and each pupil wrote a report based on his own observation; the information was given by the engineer in charge. Then the class decided which of the essays best portrayed all the conditions that had been found.

Before the project was completed, these seventh and eighth grade children could tell their elders many interesting things about the diseases carried by water. Among these were listed such diseases as typhoid, diphtheria, tuberculosis, tapeworm, and malaria and yellow fever which are caused by mosquitoes breeding in stagnant water. They knew all the methods of purifying water, too, from filtration to aeration and oxidation. They took a census of each kind of well and discussed the hygiene necessary to get from the wells water that would promote the health of the community. More than one villager learned from an excited bunch of youngsters swarming about his pump some facts about the promotion of health through a good water supply such as he had never dreamed of before, and was told how his well could be improved.

For these children had learned how to be sure of a "healthy well," too. An artesian well is usually safe, they informed the owner; water comes from below the first layer of rock, so it has run some distance underground and been purified by filtration. Drilled wells, too, were usually hygienic "if you have a drain to prevent water from running back into it and you keep the surface surrounding it clean," they learned. But of the dug wells they were "not so sure; there are a lot of things you have to consider about this kind of a well. Have you got a metal lining to prevent water seeping in from sewers, cesspools or swamps? Are you sure your metal casing isn't rusted and impure water isn't following down along the lining and so polluting the water?"

Another owner of a dug well was informed that he should have it cemented carefully at the top and covered with stone to keep out surface water and prevent animals and children from falling in. For a well that had not been used for some time, the children advised drilling deeper and sending to the state department of health a sample of the water before using it.

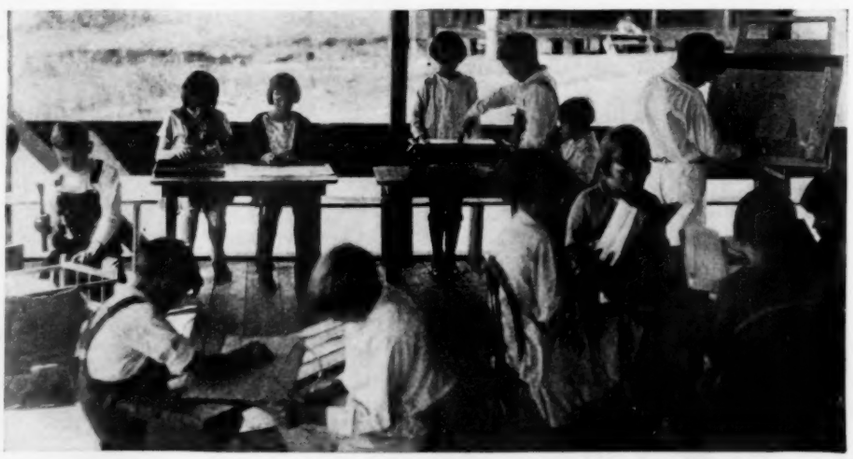
Before the project was over, the whole village was "healthy water" conscious, so much so that on election day the measure was unanimously carried. Of course, only the grown-ups "voted," so they probably did it all themselves; but nobody can ever know to what extent they "got that way" through the influence of discussions in which the school children took an intelligent part.

BERTHA STREETER,
Detroit, Mich.

AN OPEN-AIR WORKROOM

THE BUILDING that is used by the primary grades of the Sandusky School of Jefferson County, Ala., consists only of classrooms. The teachers and other citizens of the community realized an acute need for more space. They felt that this space might be provided at a minimum cost by building on the school grounds a pavilion, 30 feet square, to provide more healthful working conditions as well as an environment in which the freer creative work might be more easily fostered. The building committee met with such splendid cooperation that in six days' time the building was completed—a record for a community free labor project. Those who were able gave money or materials, and the others gave service.

The pavilion faces an open terrace around which automobiles may park. Folding chairs may be so



The open-air workshop proves an ideal project for the crowded Sandusky School of Jefferson County, Ala.

placed as to form an open-air theater, the house being the stage. After school hours, the building is at the disposal of civic and church organizations for entertainments.

During the day, the four primary grades have a schedule for using the pavilion for music, dramatics and regular class work when the weather permits. Often they use it as an outdoor lunchroom, and on rainy days it is used as a covered playground. Heretofore the school grounds have often been so muddy that the children had to be kept in their rooms the entire day.

Although there are few tools and a limited amount of materials, much is being accomplished. The children choose the activity they like best. They feel the responsibility of doing work that will be satisfactory to themselves, to the group and to the teacher. They enjoy the air and sunshine and like to work in a place in which there is no necessity for keeping down noises. The teachers have found that under such conditions the children work happily and more efficiently.

This open-air setting with adequate space and freedom is ideal for promoting self expression. It is a classroom in which groups of children may more easily find a way of working socially, cooperatively and up to capacity.

MAY LANDERS ADAMS,
Pratt City, Ala.

The science students of West Junior High School, Madison, Wis., graded the lunches of classmates in an "A" lunch campaign.

RESULTS FROM THE TEACHING OF PHYSIOLOGY AND HYGIENE

PERHAPS the best way to describe the course of study in human physiology as given in one of the junior high schools of Madison, Wis., would be to quote extracts from papers of pupils in answer to the question, "Of what practical use has the study of physiology been to you?"

1. An underweight girl says: "Since our class has been talking about the proper foods to eat, I have gained 10 pounds. I am now 2 pounds over average. I never thought much about the kind of foods I was eating until now. Some days I wouldn't have any fruit or vegetable other than potato because I carry my lunch and at supper mother didn't usually have a vegetable. Now I eat plenty of fruit and vegetables. If mother hasn't prepared a vegetable for supper, I prepare it myself."

2. A one-time overweight candy consumer has this confession to make: "I have had a material benefit from my study of physiology. I am overweight by a great deal, largely due to my diet. With the information gained in my physiology and the 'A' lunch campaign to spur me on, I changed my diet to include vegetables and fruit. The effect is a loss of 4 pounds in three months. I plan to keep on reducing until I am not more than 5 pounds overweight. Incidentally, I have an 'A' lunch practically every day and have had a card every time they were given out."

3. A coffee addict tells how she was reformed: "When I started my work in physiology I weighed 94 pounds. Every one told me how thin I was. When I heard about 'A' lunches I thought I would try to drink milk. Now I drink milk three times a day instead of coffee as I used to drink every meal. We used to get 1 quart of milk a day and it would sour. Now we get 2 quarts, and not a bit is left. My mother and father drink it too. I eat two green vegetables a day. I weigh 113 pounds now, having gained 19 pounds. I am proud of my gain."

4. A girl who once loved to hobble about on heels the size of a dime tells how she got down to earth and now has the buoyant springy step to which youth is entitled: "My shoes have rather high heels for school use. Since Dr. Denniston's talk, I have resolved to get shoes for Sunday and school use, with lower heels. It cannot be expected of a person who has high heels, to destroy all her shoes, but she can get her new ones with low heels. That is just what I am doing. I went down town and got a pair of Sunday shoes with low heels."

5. A boy who is "father to the man" writes thus: "I have always been a trifle overweight, but since I learned what a balanced lunch is I am at my normal weight. My father was always underweight, and as he eats at restaurants often, he never got proper food. I told him what a balanced lunch was and what to order. Now he is 10 pounds overweight and thinks he should play golf to lose his extra pounds."

How did it happen? What caused this awakened interest in health for health's sake? Like most reforms it came about naturally. There were many causal factors, but preaching was not one of them. In the first place the physiology and home economics departments of West Junior High School decided to try out together certain plans suggested by the National Dairy Council. The "A" lunch idea was one of them. Every one wanted an "A" card, especially when it was announced that a banquet would be given to all students who could show ten such cards after fifteen checks. The "A" lunch was introduced to the school by a play, called the "Marriage Shop," in which the message was the effect of food on health. The players were drawn from the physiology class. If the results in health improvement which have followed continue,

it will be difficult to find some one to play the parts of the overweight girl and the underweight boy next year.

Furthermore, we have some cold facts and figures to offer. These figures come direct from the West High cafeteria records. In February, the month before the food study got under way, the cafeteria bought 4,470 half pints of milk for the counter and 289 quarts for cooking purposes. In March the food study plan was working, and the cafeteria record for that month is 5,430 half pints of counter milk and 400 quarts for cooking, an increase for the month of 25 per cent over the preceding month. The sale of cooked vegetables other than potatoes increased 18 per cent; fruit and vegetable salads increased 25 per cent, and the demand for fruit juices almost doubled. Even head lettuce salad approached popularity.

The cafeteria cooperated in this better food selection by offering attractive salads and cooked vegetables in greater variety and at price levels that made "A" lunches no more expensive than other lunches.

ADA M. COCKEFAIR,
West Junior High School,
Madison, Wis.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

TEACHERS who wish to get a brief but practical introduction to the mental hygiene of school children will welcome this pamphlet of seven articles previously published in the *Journal of the National Educational Association,* entitled, "The School and Mental Health." [1]

The two chapters on the problem child are among the best in the pamphlet. Any teacher who begins to find her work with children monotonous should take these chapters as a tonic. Every teacher can find at least one child who causes annoyance and whom she tends to dislike. Here is a distinct challenge. Dr. Bassett suggests that one of the first things for the teacher to do is to free herself from all emotional bias and preconceived notions and to approach the problem with personal detachment, openmindedness and a desire to see all around the problem. Her approach should be that of the loving friend. The author believes that there are really no bad children. The behavior of the so-called bad child is the logical outcome of the life experiences of the individual. Such a child is badly in need of being understood, and the author offers many valuable suggestions leading to such an understanding.

"HEALTH and Physical Education Series of the State of Ohio Department of Education, Volume III, a Program for Junior and Senior High Schools" [2] is not merely another course of study in hygiene but a different one, which reveals constructive thinking in a field which was and still is to a considerable extent dreary and sterile. Dr. Oberteufer's scientific study of the teaching of hygiene has enabled him to work out a unified program of health education for high schools, a program in which physical education naturally plays a part. As an illustration, Dr. Oberteufer lays down the fundamental principle that "Learning about health proceeds from the particular problem to the generalization, from specific interests to broader relationships."

The place to begin the study of exercise, he says, is not with the structure or with the names of the muscles.

Physiologists themselves began with the more immediate and specific problems of physical exercise. The approach, therefore, should be made through the experiences of students about exercise. The lesson plans through the book begin with specific questions growing out of the pupil's experience.

High school teachers of physiology and hygiene will find this volume stimulating, modern and constructive.

THE POPULARITY of Dr. Thom's "Everyday Problems of the Everyday Child" among those interested in the preschool child will lead the teachers and parents of adolescent children to look forward to this new volume, "Normal Youth and Its Everyday Problems"; [3] and they will not be disappointed. Dr. Thom's keen insight into the lives of little children is duplicated in this readable and practical book on adolescence.

To the majority of educators and parents the adolescent period is the most puzzling of the various periods of the child's life. Dr. Thom's knowledge of youth is based largely on personal experience, and he deals with those psychologic problems of adolescence that leaders of youth are called on to understand. The volume bears evidence on every page of the practical mental hygienist and of one who has an abundance of common sense. Considering the unsettled conditions of the age, he finds that the youths of today have come through well although they are in need of wise guidance. Dr. Thom's contribution should be carefully read and studied by all those who deal with problems of adolescence.

IN 1931, 34,400 persons lost their lives through automobile accidents and nearly a million others were injured. At least nine out of every ten of these accidents resulted from human errors by drivers and pedestrians. Errors which might seem to be trifles are of such vital importance that the Travelers Insurance Company has rendered a great service to the public by presenting in this booklet, "Tremendous Trifles—Minor Decisions of Major Importance," [4] a nation-wide picture of a situation that should be within the power of citizens to control. All teachers who are concerned with the teaching of safety will find this publication crammed with valuable and up-to-date information.

SO MANY of the books for parents are purely academic or so simple as to be without value that it is an inspiration to get hold of a book that is sound and scholarly and yet in its scope and presentation adapted to the actual needs of parents. "Your Child and His Parents" [5] was written in response to the desire on the part of parents for a workable text to guide study groups in their initial approach to parents' problems. The questions, outlines, charts, examples and digests are the result of the experience of writers in leading groups of parents. Each chapter contains questions which challenge the reader. They stand out in prominent type and are answered briefly. For example, in the chapter on "Fear in the Life of the Child" there are questions such as these:

What causes fear in a young child?

What does a child fear instinctively?

How does the attitude of the adult influence the child?

Is fear a desirable means of control?

Is it wise to fill a child's mind with fearful stories, to show him terrifying pictures, or to take him to movies that are grewsome?

How can fears be prevented?

How can we overcome fears in children?

Every teacher of little children should read this book and recommend it to parents.

1. By Bassett, Clara. Price, 15 cents. Pp. 66. New York: The Commonwealth Fund, 1931.

2. By Oberteufer, D., Ph.D. Pp. 447. Columbus, Ohio: State Department of Education, 1932.

3. By Thom, Douglas A., M.D. Price, $2.50. Pp. 368. New York: D. Appleton & Co., 1932.

4. Pp. 56. Hartford: The Travelers Insurance Company.

5. By Brill, Alice C., and Youtz, Mary Pardee. Price, $2.50. Pp. 339. New York: D. Appleton & Company, 1932.

QUESTIONS and ANSWERS

Skull Injury

To the Editor:—A man, aged 41, was hit on the back of the head by a shell casing while he was a member of the A. E. F. The skull was fractured, and a silver plate was inserted at operation. When the patient was discharged he was absolutely unable to read or write words but could recognize letters, add, multiply and subtract. The reason for discharge from the service was given as psychoneurosis. A doctor later told him he would never recover his lost ability, as the cells concerned with word memory were destroyed. Since I have known him, I have seen his ability increase to the extent of recognizing words, such as names of places he never saw before but which he now sees every day, and names of persons. Do you agree with me that rehabilitation of this sort is possible? The man is not in a position to spend time or money necessary for expensive reeducation, but I contend that if the same method at present used for teaching children to read is followed, and his mind can be freed from the obsession that he never can read again, in time the function may be restored.

M. M. G., Massachusetts.

Answer.—The inquiry is somewhat difficult to answer, as one might gather from the service discharge diagnosis that the patient's disability was not considered as entirely organic, if at all. It is perfectly possible for a patient who has suffered a brain lesion to recognize letters and yet not be able to combine them into words which he understands, since the latter function is distributed over a somewhat different area than that of primary perception. On the other hand, numerals are symbols, just as words are, and should be handled in the same patient about the same way as words.

A certain patient, who undoubtedly had suffered a stroke, could not read a book or newspaper, yet could read music. This patient was placed in charge of a woman trained in the work of teaching children how to talk and to read. The progress she made, especially in talking, was amazing. It is still a labor for her to read, although she can do so. There is considerable controversy as to whether these centers can be reeducated, or whether the other cerebral hemisphere takes over the job to some extent.

Arthritis

To the Editor:—I have been told that the American Medical Association has a medical commission devoted to research in the field of arthritis and in particular arthritis deformans. Have they experimented in any way with the intravenous injection of synthetic arsenicals such as arsphenamine? Are there any other arsenic compounds, synthetic or otherwise, that are as efficient as arsphenamine for this purpose that can be obtained at a reduced cost? Is arthritis deformans in any way related to or connected with the ailment generally termed gout? Has the commission found any good results from the administration of the sunshine vitamin concentrate such as ergosterol? Does arthritis deformans ever involve the nervous system? And, if so, does it do so to such an extent as to cause mental derangement? Does the research work of your commission or the experience of the medical profession in general indicate that arthritis deformans is the result of a focal infection, a constitutional deficiency of an hereditary nature, or improper diet? I am interested in the science of dietetics, especially as it pertains to this particular affliction.

J. B., Kansas.

Answer.—Intravenous injection of arsphenamine has been used considerably in arthritis, though mostly in the atrophic type. Some good results have been reported. The tonic influence of arsenicals on the blood is probably partly achieved in this way, together, perhaps, with a metabolic influence; ordinarily however, arsenic is better given by hypodermic injection or by mouth and preferably in small doses. There is no clear evidence that arsphenamine acts in any way comparable to its specificity in syphilis. Arsenic constitutes one of the few valuable drugs in the treatment of arthritis. The form in which it can be best tolerated is sodium cacodylate, by mouth or by hypodermic injections.

Gout and arthritis are generally regarded as distinct entities and probably have only incidental relationship. True gout is apparently quite rare in this country.

Vitamins appear to be valuable in the arthritic syndrome, partly, at least, because the individuals suffering from arthritis, particularly atrophic arthritis, are often undernourished and below par in many respects. It is possible, however, that vitamins play a somewhat more immediate part in their influence in helping to improve the faulty anatomy and physiology of the gastro-intestinal tract when they are administered in conjunction with a properly balanced diet in which the proportion of carbohydrate is somewhat lower than is obtained in the average dietary.

Arthritis is now regarded by critical students as a disease in which the nervous system is definitely involved, probably in a contributory or even causative way. Because of this, or because of secondary results of the disease or the factors producing it, mental effects are not uncommon. These take the form, chiefly, of depression and the production of personality difficulties, but sometimes the effects extend to clear-cut psychoses and, exceptionally, they develop into true insanity.

There can be no question of the significance of focal infection in the production of the arthritic syndrome as well as other conditions in medicine, but it is now believed that focal infection may be the result of arthritis as well as the cause of it; when a result, it also becomes a cause. The etiologic factors productive of arthritis are many, including hereditary influence, the constitution and body make-up, and faulty anatomy and physiology of the gastro-intestinal tract in particular, though probably of other organs as well. These factors and excessive or improperly balanced dietary may and often do precipitate the disease itself.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Health Rules

To the Editor:—Please express your opinion about the six health rules given in the *American Weekly,* as follows: (1) "Drink Plenty of Water," at least six or eight glasses a day, if advised, but there is nothing to prove that this is desirable. (2) "Take Plenty of Exercise" is another health slogan, but many people live to great age who take no more exercise than can be escaped. (3) The advice to "Walk Off a Cold in the Fresh Air," if followed, may result in making the cold much worse and lead to pneumonia. (4) "Sleep Eight Hours" is too small an allowance for many, and more than is needed by others. Of course, children need much more. (5) There is nothing whatever to prove that a daily bath or a weekly bath, or a bath even once a year, is of any advantage to health. (6) The warning not to swallow fruit or raisin seeds, because of the danger that they may cause appendicitis, is based on no evidence. Please inform me whether these statements are true, or what parts are true.

L. B., California.

Answer.—The clipping from the *American Weekly* to which you refer in your letter is an interesting example of the difficulty of translating scientific facts into language which can easily be understood by those who do not have an extensive scientific education.

What Dr. Donald B. Armstrong said at a recent meeting of the American Public Health Association is correct so far as it refers to many current beliefs concerning health, but it is dangerous to apply general statements such as he made to specific instances, just as it is unsafe to apply any kind of general health information to individual cases.

Take, for example, the six health rules cited:

1. There is no denying the fact that a certain amount of water is necessary to the human metabolism; whether this amount is six glasses a day, or eight, depends on the individual. In general, it is true that most persons ought to drink more water than they do, while it is also true that some take too much. Whether fluid is taken as water or in other forms is of little consequence.

2. It is also true that for the average person a certain amount of exercise is healthful, yet there are those who should take as little as possible because of organic disease. In issuing general rules it is necessary to speak in general terms, and sometimes the necessary caution about applying generalities to individual cases is omitted.

3. Persons who understand the common cold are not advising walking it off in cold air. In fact, it is generally agreed that while persons with colds should have fresh air, it is not good for them to be exposed to cold air.

4. The question of sleep is an individual matter. Some persons can do with little, while others require more, but the usual advice to sleep eight hours strikes a good general average.

5. Advice relative to bathing has been overdone in some instances. It is perfectly true that scrupulous cleanliness of the hands reduces the danger of infection of the nose and throat, while it is also probably true that bodily cleanliness is more important as a social virtue than as a health-preserving habit.

6. The idea that fruit or raisin seeds may cause appendicitis is an old idea which has been effectually exploded, and it is not now being advanced by health educators who know their business.

In general, the article in the *American Weekly* is correct, but the writer has not been strictly fair in comparing such outworn customs as bleeding and blistering with modern health practices.

Dementia Praecox

To the Editor:—I am seeking information regarding dementia praecox. Is this mental disease easily identified by a skilled physician, or may there be some doubt about it? Assuming that a young man, aged 30, actually has dementia praecox, is there any possibility that he can recover by proper treatment? If so, what treatment can be used? The reactions of the young man are similar to those described by Prof. P. E. Gannuskin whose observations are discussed in a newspaper report, as follows: "An apparently new mental disease is reported from Russia by Prof. P. E. Gannuskin of the First Moscow State University. He describes it as 'psychic invalidism.' It attacks chiefly young men who have been subjected to a long period of overwork and overresponsibility. There is a marked decline of intelligence, explosive temper outbursts, periods of depression, and hysteria with headaches, fatigue and fainting spells. This condition develops over three or four years. It is quite different from the well-known dementia praecox, Prof. Gannuskin says, in that it runs a definite course at the end of which the regression stops. Its symptoms are somewhat like those of severe neurasthenia, but no amount of rest appears to do any good."

D. R., Ohio.

Answer.—The condition described by Gannuskin is one to differentiate from dementia praecox, which it may resemble in the early stages. According to its definition, the term dementia praecox should stand for permanent incurable mental deterioration. However, many young people start in with symptoms like those of the early stage of the true disease, but they recover with, without and sometimes in spite of treatment. This led Bleuler to propose the term schizophrenia to include both the old dementia praecox and the allied temporary and curable conditions. It follows from this that the early diagnosis may be virtually impossible even for the most skilful psychiatrist. No cut and dried rules can be laid down for the treatment, which must be individual and based on a comprehensive study of the hereditary and personal antecedents and the physical and mental symptoms presented.

Skin—Nails

To the Editor:—I have been troubled for years with dry and cracked skin around my nails and with brittle nails. Is this an indication of some deficiency of lime salts such as is known in poor tooth structure? Could this condition be remedied by diet?

A. C. B., New Jersey.

Answer.—The condition described as dry and cracked skin around the nails and brittle nails, existing for years, is probably the result of an unusual process in the transformation of the skin cells to form the horny layer of the skin. It is usually part of a more widespread condition in which the skin is dry, harsh and scaly in varying degree, and often lacks natural moisture and oil. This is seen chiefly on the shins and the outer side of the forearms and thighs, and generally is more evident in the winter months. The skin of the fingers may be shiny and stiff, the nails smooth and flattened. The use of soap with water removes oil from the skin and in consequence skin of this type becomes more dry and cracks readily; this is especially true around the nails.

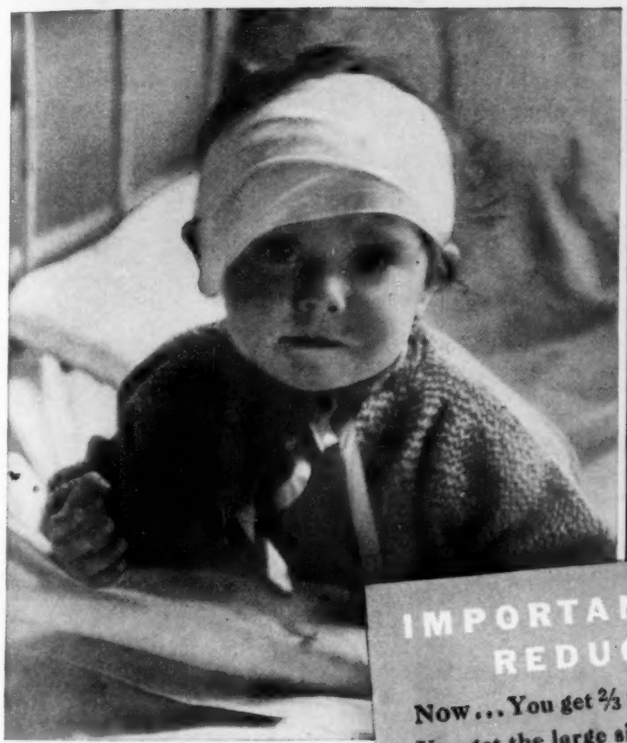
Dryness and other changes of the skin are observed also in myxedema, in association with changes in the nails and hair, and with other symptoms characteristic of the condition. In this disorder the function of the thyroid gland is impaired, and in consequence there is a profound change in the metabolism.

Chemicals used in manicuring may be responsible for dryness and cracking of the skin around the nails; more often the effect of such chemicals is to produce an inflammation or a dermatitis.

It is improbable that a deficiency of lime salts is associated with the condition described or that diet would influence the condition.

At the Doctor's Right Hand

in the New England Medical Center



BOSTON FLOATING HOSPITAL, operated for years on a boat in Boston Harbor, has given medical care to 28,000 children during 37 years. Hexylresorcinol Solution S. T. 37 is used here daily.

FIVE HUNDRED children and grown-ups visit the Boston Dispensary *each day*. Hexylresorcinol Solution S. T. 37 is used for nose and throat cases in the Children's Division, the Tumor Clinic and Surgery.

IMPORTANT PRICE REDUCTION

Now... You get ⅔ more in the 50¢ size. You get the large size for $1.00 instead of $1.25. *And you can safely dilute this effective antiseptic 3 times!*

Use this Safe, Effective Antiseptic in your home

IN two great departments of this famous new Center of medicine —whose influence reaches out to all New England... for nose and throat cases of the Children's Division and in the Tumor Clinic and Surgery, the antiseptic, Hexylresorcinol Solution S.T.37 (1:1000), is in daily use!

For the active ingredient of Hexylresorcinol Solution S. T. 37 has germicidal strength 70 times more powerful than carbolic acid! Yet this Solution is so harmless that a young baby can accidentally swallow it with perfect safety!

Use it for gargling and all open wounds—does not burn or sting Use this safe, efficient antiseptic freely in your own home. Gargle with it at the first sign of a cold or whenever the throat is irritated.

For every cut and scratch, too, which, through neglect or unwise treatment, may develop into serious infection, turn at once to Hexylresorcinol Solution S. T. 37. It is efficient, yet it does not burn or sting.

The claims made here have been found acceptable by the Council on Pharmacy and Chemistry of the American Medical Association.

Buy a bottle today. At all druggists in the United States and Canada at the new price reductions.

ACCEPTED AMERICAN MEDICAL ASSN.

MAIL COUPON TODAY

SHARP & DOHME, Dept. G-4
640 NORTH BROAD ST., PHILADELPHIA, PA.

I enclose 10¢ in stamps, to cover cost of mailing and handling, for which please send me a generous-sized complimentary clinical package of Hexylresorcinol Solution S. T. 37.

Name_____

Address_____

The "Accident" Alibi

Are there unsuspected or unheeded dangers in your home?

Brooms, pails, boxes, toys or other objects placed where someone might trip over them?

Unlighted stairways?

Rickety steps, loose banisters or hand-rails?

Unsecured rugs, slippery or highly polished floors?

Wabbly ladders?

Leaky connections in gas heater, range, furnace or lighting fixture?

Defective electric wiring or appliances?

Matches within reach of children?

Unlabeled poisons?

"IT was an accident" is a poor alibi for injuries which could have been prevented.

Ask yourself what caused the latest injury to one of your own family or to a friend. Was it a *true* accident which could not have been prevented or was it the result of carelessness? Most accidents are of the preventable kind.

Could any member of your family suffer a serious injury in your home because of hazards you have not removed? Could you walk safely in any part of the house, day or night, without fear of falling over some temporary or permanent obstruction?

Last year in the United States there were almost as many deaths from accidents in homes as there were from automobile accidents. Many cripplings which happened in homes could have been averted.

Scaldings from burning liquids, burnings from fire and hot surfaces, could have been prevented by greater thoughtfulness. Most of the injuries from sharp tools and instruments could have been prevented by carefulness. Investigating gas or gasoline leaks with a lighted match is a direct invitation to a disastrous explosion.

There were about 17,000 fatal injuries in industry last year in the United States and 29,000 in homes. Well managed industries have learned how to reduce the number of accidents during working hours through regular inspection and protective measures.

Why not inspect and protect your own home? Look around now—carefully—to see what can be done to make your home safer.

Send for and use the Metropolitan "Home Inspection Chart" which lists many of the places where dangers may lurk in your home. Your copy of the Chart and also a booklet, "Accident Prevention in the Home" will be mailed free. Address booklet Dept. 11-G-32.

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, PRESIDENT ~ ONE MADISON AVENUE, NEW YORK, N.Y.

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Diet Lists

To the Editor:—I should greatly appreciate your sending me the following diet lists: (1) diet list for blood building; (2) diet list containing the greatest number of foods and their caloric content.

G. W. H., Michigan.

Answer.—It is not quite clear what is meant by a diet list for "blood building." Any good diet that contributes to bodily strength and vigor improves, of course, the condition of the blood. If by blood building diets are meant diets to be used in some special blood condition, such as anemia, it can be said, in general, that the addition to the ordinary diet of such substances as liver, kidney, pancreas and stomach, and of certain vegetables and fruits such as apricots, plums, spinach and some others, has proved useful. Eggs are also often helpful.

In secondary anemia the diet used at the Cook County Hospital is called Full Special Diet; to this may be added 1 pint of egg nog, green vegetables and salads daily, and bran muffins and raisins. The Full Special Diet is as follows:

SAMPLE MENUS

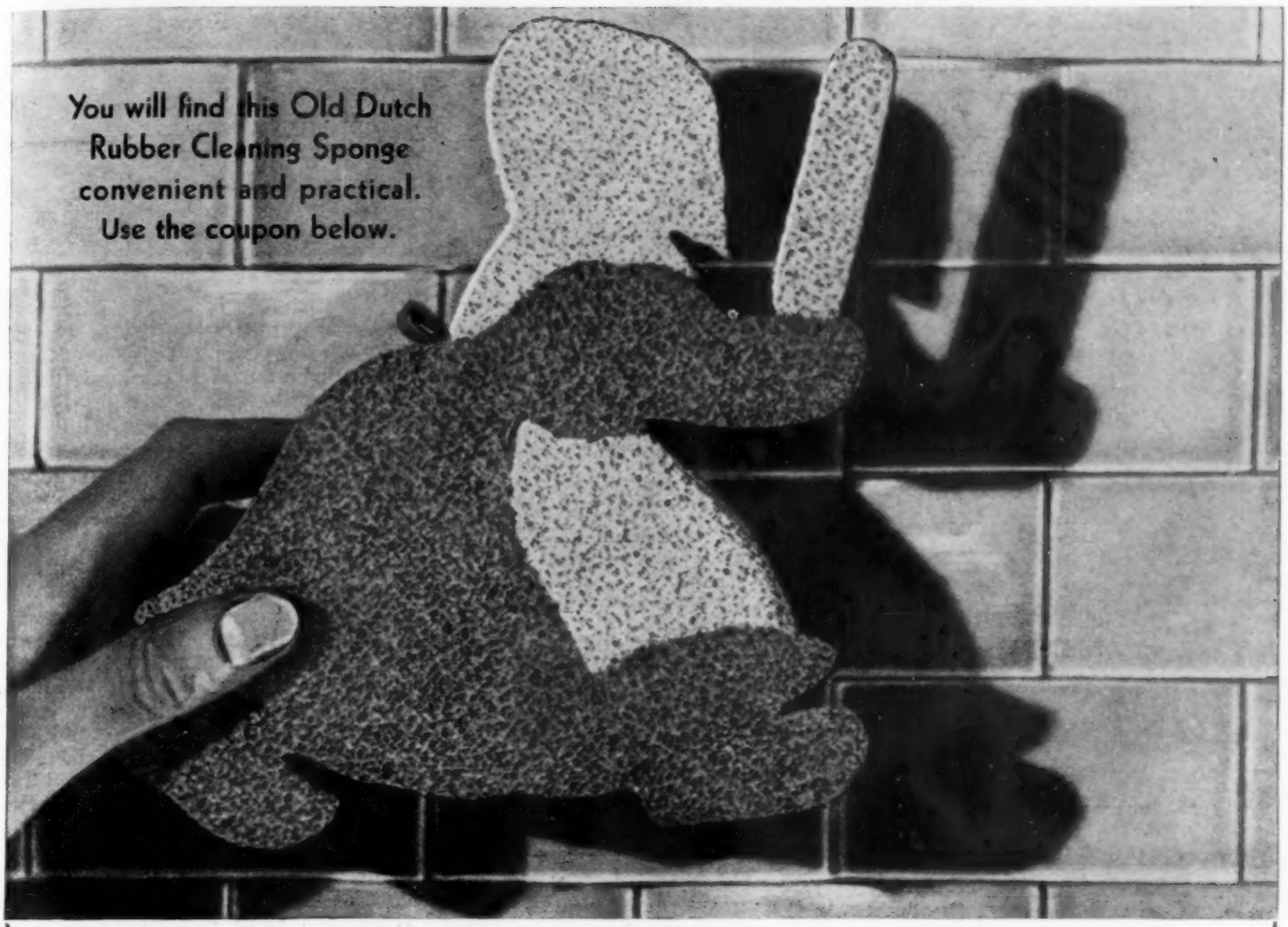
Breakfast: Stewed prunes; oatmeal; egg or bacon; bread or toast with oleomargarine or butter; coffee or milk.

Dinner: Clear soup; crackers; roast beef; mashed potatoes; buttered carrots; Waldorf salad; custard or gelatin or both; bread with oleomargarine or butter; tea or milk.

Supper: Macaroni with tomatoes; caramel pudding; bread with oleomargarine or butter; tea or milk.

As to a diet containing the greatest number of foods, the diet used in determining the motor efficiency of the digestive tract, the so-called Motor Meal, probably approaches nearest to what the inquirer has in mind. This consists of the Full Special Diet already mentioned and, in addition, the following: one raw apple daily; one-half cup of raisins; one serving of spinach; one rooty vegetable, and tea with leaves. The stomach is pumped seven hours after the meal has been taken, and the presence of food remnants, roughage and undigested food material denotes impaired or insufficient motility or a mechanical obstruction at the lower end of the stomach.

Yes, it does appear to me that high and independent feelings are naturally, though not uniformly or inseparably, connected with bodily advantages. Strong men are usually good humored, and active men often display the same elasticity of mind as of body.—*Sir Walter Scott.*



OLD DUTCH CLEANSER

costs less to use because it goes further and is all you need for all your cleaning

Old Dutch Cleanser affords every housewife a *double saving*. ***First:*** It goes further and costs less to use. Why? Because its particles are flaky and flat-shaped, they cover more surface and consequently do more actual cleaning. ***Second:*** Old Dutch is so adaptable, does its many cleaning tasks so perfectly, that you do not need a variety of powders and cleaners. In fact, it's the only cleanser you need in your home. Just think what an additional saving that is!

There is nothing else like Old Dutch Cleanser. It is safe for all cleaning because it's free from harsh, scratchy grit, crude abrasives, caustic or acid. And, too, Old Dutch is always kind to the hands, and that's another reason why millions of housewives use it.

Old Dutch is one perfect cleanser for every cleaning task from mirrors, utensils and wood or linoleum floors to porcelain, enamel, tile and metal or painted surfaces — it cleans quicker and is the only cleanser you need in your home. Buy Old Dutch Cleanser today and economize on your cleaning cost.

This is the Old Dutch Rubber Cleaning Sponge. Convenient and practical. A little Old Dutch and this sponge do a quick, thorough cleaning job. An attractive bathroom accessory. Send for it today. Mail 10c and the windmill panel from an Old Dutch Cleanser label for each sponge.

OLD DUTCH CLEANSER, Dept. D-332, 221 North La Salle Street, Chicago, Illinois

Name _____

Address _____

City _____ *State* _____

GUARANTEE

CERTIFOODS, INC., DOES HEREBY CERTIFY that this product,* by reason of its specially developed process which conserves vitamin values in maximum degree, contains not less than 560 Vitamin A units, not less than 6 Vitamin B (complex) units, and not less than 2 Vitamin C units (Sherman units).

LOOK FOR THIS GUARANTEE WHEN YOU BUY *SIEVED VEGETABLES*

NOTHING is too good for that baby of yours. For that reason be extra careful when you buy sieved vegetables to supplement the milk diet. If you will ask for Certifoods and look for the guarantee on the label, you are sure of getting the *only* sieved vegetables in which the A, B and C vitamins *are* guaranteed.

Certifoods are different. Infinite care is taken in their preparation and the exclusive process used maintains the vitamin values to the highest possible degree. Certifoods also provide the necessary mineral salts—calcium, phosphorus and iron—and valuable proteins, fats and carbohydrates in addition to their guaranteed vitamins. Babies like the taste of Certifoods and eat them eagerly—and that's important!

And remember, too, time wasted in the kitchen preparing and straining your own vegetables is better spent with baby.

Insist on getting Certifoods. We want you to know how valuable these superior sieved vegetables are in helping babies to develop strong healthy bodies and good strong bones and teeth. Take advantage of our special offer today.

SPECIAL $1.00 OFFER

Most dealers sell Certifoods, but if yours does not happen to have them we make this special offer: Fill in the coupon below, attach one dollar and we will forward eight assorted enamel-lined containers of Certifoods, enough for a ten days' supply. We will also send our helpful booklet, "What Kind of Baby Is Yours?"

**Sieved Spinach. Number of Vitamin A, B and C units contained in all varieties are guaranteed on the Certifoods label.*

Certifoods, INC.

Subsidiary of THE MALTINE COMPANY

30 Vesey Street New York, N. Y.

Certifoods

SIEVED VEGETABLES

CARROTS TOMATOES SPINACH GREEN BEANS GREEN PEAS VEGETABLE PUREE

CERTIFOODS *are accepted by the Committee on Foods of the American Medical Association and have been approved by the Good Housekeeping Bureau of Foods, Sanitation and Health.*

CERTIFOODS, Inc., Dept. H, 30 Vesey Street, New York, N. Y.

Gentlemen: Please send me your free booklet, "What Kind of Baby Is Yours?"
( ) Please send me Certifoods "Get Acquainted Assortment" of eight cans for special price ( ) $1 enclosed.

*Money or Check*_____

*Name*_____

*Street Address*_____

*City*_____ *State*_____

Fleas

To the Editor:—Please tell me what to do to rid my rooms of dog fleas. I have tried three different remedies with no success.

M. R. K., Kansas.

Answer.—There are various ways of getting rid of fleas. In a book entitled "Parasitology for Medical Students," the following method is recommended:

"Destruction of Fleas.—The treatment required for the eradication of fleas is personal cleanliness, cleanliness in the house and all outhouses attached, and attention to such animals as dogs and cats which may act as carriers. Rats and mice should be destroyed.

"If the floor, etc., of a house be kept clean by scrubbing with soap and water, frequent dusting and sweeping, there is little likelihood of its becoming infested. If badly infested, then some naphthalene should be scattered over the floors and allowed to remain for twenty-four hours. This will kill the fleas, and then they should be swept up with the dust, after which the floors should be thoroughly washed. Benzine alone or with some naphthalene dissolved in it is also useful for destroying the parasites. Clothing may be dusted with naphthalene. Kerosene (paraffin oil or petroleum) (20 parts), made into an emulsion with soft soap (1 part), melted in hot water (3 parts), and rubbed over floors, bedsteads, etc., will kill all fleas within reach and also prevent their return."

A bulletin of the Pennsylvania State Board of Health contains the following statement:

"Places frequented by them [fleas] should be thoroughly cleaned, using boiling hot water and kerosene mixed with cresol preparations, or dusting freely with pyrethrum powder, especially in the crevices and openings where dust and dirt may be lodged. . . . On animals they are readily stupefied by dusting pyrethrum powder into the hair. The fleas will fall off while stupefied and should be immediately swept up and burned. Resting or sleeping places for infested animals should be carefully provided with straw matting or pieces of carpet, as they can be readily shaken into the open fire and the eggs, larvae and fleas with which they are usually covered, destroyed by fire."

If there be a saving way, at all, it is obviously this: Substitute health and happiness for wealth as a world ideal; and translate that new ideal into action by education from babyhood up.—*John Galsworthy.*

Cavities may hide in those "*perfect*" teeth

PERFECT teeth, you say. White—whole—healthy. Certainly they look that way, and even the dentist's pick would search in vain for signs of decay.

Yet two surfaces of each tooth defy ordinary examination. These are the surfaces between the teeth—the "interproximal" surfaces. They are so close together, no examining instruments can get in between them. If decay begins there, and only casual means of examination are employed, it is likely to go undetected until it has caused serious destruction. Then comes toothache.

However, the dentist has a positive means of discovering the beginnings of decay even in these inaccessible places. With x-rays and special *Bite-Wing* films he can obtain accurate information about every surface of the tooth. He can tell where decay has started and see how far it has progressed. He is provided with an invaluable guide in his work.

To save yourself pain—to protect your teeth—and to avoid extensive dental work, you should have a *Bite-Wing* x-ray examination made each year. It is simple, positive, and inexpensive.

HAVE AN ANNUAL HEALTH AND X-RAY EXAMINATION

X-rays play an all-important part in maintaining general health. Send the coupon at the right and you will receive an interesting, illustrated booklet that tells the story of x-rays and health.

EASTMAN KODAK COMPANY, *Medical Division*,
363 State Street, Rochester, N. Y.

Gentlemen: Please send me your free booklet, "X-rays and Health."

Name_____

No. & St._____ City & State_____

Here's the Simple, Inexpensive Way *to keep your hands soft and lovely through the day's long work . . . . .*

Hands that are constantly washed in antiseptics and soaps during each day's work—the active hands of doctors and nurses—such hands will quickly put any skin cream to a severe test. Nivea* Creme, year in and year out, has met the test—has satisfied doctors and nurses, just as it has satisfied housewives and business women, of its unusual protective qualities. Nivea Creme contains an exclusive ingredient Eucerite*, which is similar to a natural element in the skin whose duty it is to help keep the skin soft, smooth and youthful. The drying-out action of sun, wind, cold—of harsh soaps and antiseptics—robs the skin of its natural lubrication; develops a real need for such a creme as Nivea. Rub in a tiny bit of Nivea Creme several times a day, and see how quickly it restores that lovely softness to your hands. It costs so little—goes so far. Sold at all leading drug and toilet goods counters.

Mail the coupon below for your sample tube of Nivea Creme.

NIVEA CREME

* Trade Mark Reg. U. S. Pat. Off.

P. Beiersdorf & Co., Inc., Dept.H-11
200 Hudson St., New York, N. Y.

Please send me without charge a trial tube of Nivea Creme.

Name.....

Street.....

City.....State.....

SUGGESTIONS FOR CARE BEFORE BIRTH OF CHILD

A few practical suggestions for care during pregnancy are outlined by the Massachusetts department of public health. The expectant mother should visit the family physician at least once every month. He will examine the urine frequently and take the blood pressure. The dentist should also be informed of the condition, and his advice should be followed.

Foods should be simple, well cooked and easily digested. Four glasses of milk in some form should be taken daily. The doctor may advise in regard to the diet.

A bowel movement at least once each day is necessary. Water, exercise and certain foods are aids in regulation.

The teeth and gums should be carefully brushed after each meal.

Clothing should be loose and should hang from the shoulders. Maternity corsets may add to the comfort during pregnancy.

A warm water bath daily helps to keep the skin clean.

Outdoor exercise is especially valuable, but it should not be overdone to the point of being tiring.

Sunbaths are decidedly advantageous; it is well to remember that sun through ordinary window glass or clothing is not helpful.

Rest during the day is of much importance for the expectant mother. An hour or two each day after the noon meal is ideal.

The mother is better able to nurse her baby successfully if care of the breasts is taken during pregnancy. Wash the breasts gently every day with warm water. If the nipples demand special care, consult the doctor.

Considerable preparation is necessary if confinement is to take place in the home. A competent nurse should be engaged for delivery and if possible for the two weeks following.

CHILDHOOD GRIEFS

"To many people the sorrows of children are but foolish tears; their deepest griefs, humiliations, and disappointments seem but transitory affairs. Nothing could be further from the truth. Children's emotions are more compelling than our own; their sorrows are the most real there are. The child lives in the present, and his griefs, unlike those of men and women, are little mitigated by the memory of former joys or by the hope of others yet to come," Lewis M. Terman states in *The Training School.*

Schools and Camps

Schools for Backward Children

Beverly Farm (INC.) *A Home and School for Nervous and Backward Children and Adults*

220 acre farm. 7 bldgs. New school gymnasium. 35th year. Industrial and school training given. Dept. for birth injury cases. GROVES BLAKE SMITH, M.D., Supt. **Godfrey, Ill.**

<> TROWBRIDGE TRAINING SCHOOL <>

Home school for nervous, backward children. *Best in the West.* Beautiful buildings. Spacious grounds. Experienced teachers. Individual supervision. Resident physician. Enrolment limited. Endorsed by physicians, educators. Booklet. E. Haydn Trowbridge, M.D., 1810 Bryant Bldg., Kansas City, Mo.

Try Shopping Among HYGEIA Advertisements

WHAT PRICE ICICLES?

When snow and sleet and winter's cold puts much of Nature to sleep NATURE MAGAZINE still brings you the story of the outdoors. It recalls the days of glorious Fall and tells the story of Spring's promises.

In the DECEMBER ISSUE of NATURE MAGAZINE read what Charles Fitzhugh Talman tells about the curious toys man has devised to foretell weather; what S. W. Frist writes about insects that are the most ingenious of fishermen; what Marian Haller suggests in the way of bringing Nature into the home in the Winter time.

And you will not wish to miss the twelve pictures of birds in color painted specially by R. Bruce Horsfall to illustrate the feature on official State Birds. Do you know your State Bird?

These are but a few of the delights of the December issue of NATURE MAGAZINE. The January issue holds still more.

The regular price of NATURE MAGAZINE is $3.00 per year, but you can get the next six issues for only $1.00 by sending the attached coupon today.

NATURE MAGAZINE Hyg.
1214 16th St., N. W., Wash., D. C.

Send me the next 6 issues of your magazine. My remittance for $1.00 is enclosed.

Name.....

St. & No.....

City & State.....

FOODS—THEIR SELECTION AND PREPARATION

(Continued from page 1026)

weigh from 1 to 6 pounds. Dasheens may be baked or boiled, but owing to the texture of the flesh they are unsatisfactory mashed.

Indian breadroot is the root of a plant native to the prairie regions of the Central West and was at one time a food of importance to the Indians. The average size is about that of an egg and the skin is tough and dark brown. The meat resembles chestnuts in flavor and appearance. Indian breadroot may be eaten raw or cooked like potatoes. It is also called pomme blanche and prairie turnip.

Okra is also called gumbo. It is raised extensively in the southern part of the United States and in other warm climates. The edible portion is the long narrow pod. The pods are slightly gummy and slimy but are good in soups and stews or served with tomatoes as a vegetable.

Pejibave is borne on a palm tree in South America. It is oval and is 1 or 2 inches in length. It is generally boiled. The flavor resembles that of the chestnut. Pejibave is used often as an ingredient for poultry stuffing. The peach palm is a similar product.

Rhubarb belongs to the buckwheat family. It is commonly called pie plant. The tender pink stalks are used for pie filling or sauce.

Truffles grow underground from spores or seeds. The method of reproduction is so unusual that cultivation is not successful. The most highly valued species is the perigord, which has a regular appearance and a delicate aroma and is blackish gray. The size ranges from that of a walnut to that of a potato. The white truffle comes from England and Germany. The Italian truffle is brownish and has a garlic-like odor. The best grade is "peeled" and the next is "brushed." As with mushrooms it is not possible to obtain as great delicacy of flavor in the canned goods as one may secure from the fresh product. Truffles are used chiefly for garnishes.

Yams resemble sweet potatoes and are often confused with them. Some weigh as much as 100 pounds and have a length of 8 feet. The smaller yams are the more desirable, however. They are best when baked or boiled.

Yautia is similar to the Hawaiian taro. Both leaves and bulbs are edible. The flesh is similar to that of the potato in texture. The color ranges from cream, through pink to purple. The yautia may be prepared the same as the potato.

Another KLEENEX PRICE REDUCTION!

Full size package now costs but 25c

Use Kleenex for handkerchiefs! For removing cosmetics, for dusting, for polishing—for everything!

25c

NOW—use all the Kleenex you want! Be as lavish as you like! For the price is once more reduced. That big box—for which you paid 50c a year ago—35c six months ago—now costs but 25c!

At this new low price, no one need risk germ-filled handkerchiefs during colds. A Kleenex Tissue may be used once, then destroyed. There is no self-infection. No spreading germs to others, as when handkerchiefs are carried all day long, left in laundry bags, washed with other clothing.

Softest—yet strongest

Kleenex is made of softest rayon-cellulose and is more absorbent than linen. Though the softest tissue available, it is also the strongest.

Note all the Kleenex products, listed below. Every one has a place in your home. Keep a package in the kitchen, for wiping up grease, for polishing, for draining fried foods. The price is low—try them all!

Four Kleenex products

1. REGULAR KLEENEX comes in a variety of shades, 180 sheets for only . 25c.
2. ROLLS OF KLEENEX are convenient to hang in bathroom, dressing room or kitchen. In pink or white, . . . 25c.
3. 'KERFS are for dress-up handkerchiefs and tea napkins. Four thicknesses of tissue, smartly bordered. . . 25c.
4. LARGE SIZE KLEENEX comes in sheets 3 times the regular size. Splendid for removing face creams and for household uses. Formerly $1, now . . 50c.

KLEENEX *disposable* TISSUES

To Every Mother of a Child Between Two and Six

YOUR department store now has a new kind of underclothes for young children . . . Vanta Self-Help Garments . . . which solve the difficult problem of teaching a child to dress himself. These garments are so scientifically constructed that even a very young child can operate them without help from you. Fastenings are few in number and especially made for tiny fingers. A red "Valentine" heart label, attractive to the little folks, *always* marks the front and outside.

Be sure to ask for these wonderful Vanta Self-Help Garments the next time you buy Shirts, Sleepers, Union Suits, or other undergarments for Boys or Girls in sizes 2 to 12 years. These are the modern, scientific garments for children. If your department store does not carry them, write for the name of your nearest dealer, to the Earnshaw Knitting Company, Dept. H-11, Newton, Mass.

Just one front button controls the drop seat of the Vanta Self-Help Union Suit illustrated. Yet the belt cannot slip out of reach. Merely drawing the ends of the belt forward raises the seat and closes it. These garments save your time and develop resourcefulness in your child.

A Wonderful Booklet Free

EARNSHAW KNITTING COMPANY
Dept. H-11 Newton, Mass.

Please send me without charge of any kind free copy of "The Toddler" which covers "The Neglected Age" from two to six years. Tells how to train my child to be resourceful rather than dependent upon others.

Name.....

Address.....

City.....State.....

NO LAWS REGULATE CARE MILK RECEIVES IN THE HOME

The care that milk receives after it arrives in the home of the consumer depends entirely on that consumer. It is no longer subject to regulation.

Milk is important in the diet in every home and particularly in the home in which growing children are present. Milk safeguards a restricted diet, but it spoils easily if proper refrigeration is lacking or if the milk is allowed to stand without being used for some time.

A good general rule for the household is to use milk within a few hours after it is delivered. If it is bought at the neighborhood store, make the purchase just before using it. A temperature of 45 F., or lower, is needed to keep milk for a longer period of time, according to experts. The inexpensive little ice chest, however, will keep milk over night.

Keeping the bottle under a slow drip of tap water, or covering it with clean, damp cloths in some cool dry place is satisfactory if there is no refrigerator. Cooking will destroy the bacteria if there is any doubt in the mind of the consumer as to their presence. Evaporated milk is a good alternative for fresh milk and contains much the same food values.

The United States Department of Agriculture suggests sour-milk biscuits, muffins, corn-bread, batter cakes, ginger-bread, devil's food cake or cottage cheese as ways of using the milk that has soured.

SAFETY GLASS SAVES LIFE, PREVENTS INJURY

When laminated safety glass in the door of a car is struck, it will crack badly but will be held together by its sealed-in celluloid center. The discovery of this invention was really due to an accident. It happened in the laboratory of a French scientist twenty-eight years ago. Benedictus had been using a bottle of collodion or some similar cellulose nitrate in solution. By some chance the solvent evaporated, leaving a skin of cellulose nitrate on the walls of the bottle. In arranging his equipment, Benedictus dislodged the bottle from its shelf and it fell to the floor with a crash. The glass was shattered, but to the astonishment of the scientist it retained its shape and none of the particles scattered. In a recent issue, *Scientific American* tells the story of this unusual discovery.

LAUGHTER is "ACCEPTED"

Everywhere.. as a preventive measure against many human ailments and an effective remedial aid for all disabilities. These are the laugh producing books officially "accepted" by the American Library Association and recommended by thousands of readers who have used them.

Toaster's Handbook

More Toasts

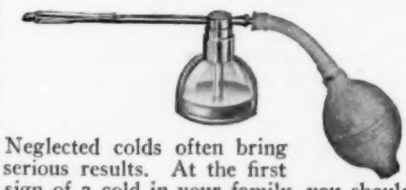
Still More Toasts

Each book contains about 2000 of the best jokes, humorous stories and quotations arranged by subject. They average over 500 pages each and are attractively bound. No better recommendation can be found for any book than that it has produced a popular demand for successors.

Each Book Postpaid $1.80
All three at one time-Postpaid $4.50

The H. W. Wilson Company
Since 1898 publishers of indexes to periodicals and other library "tools."
950-972 University Avenue
New York City

COLDS ARE DANGEROUS



Neglected colds often bring serious results. At the first sign of a cold in your family, you should consult your physician promptly. If he prescribes a solution to be sprayed in the nose or throat, ask for a DeVilbiss Atomizer when you get the prescription filled. You can depend upon a DeVilbiss Atomizer to apply the medicament gently and thoroughly. For over 40 years, the medical profession has used DeVilbiss Atomizers and recommended them to patients.

DeVilbiss

★ ★ ★

The DeVilbiss Company, Toledo, Ohio, headquarters for atomizers and vaporizers for professional and home use.

Accepted by the Council on Physical Therapy of the American Medical Association

Mention HYGEIA when writing to Advertisers

Bringing back lost appetites with *Horlick's*

WHEN your child refuses to eat the food he needs—has no appetite—the reason may be malnutrition. Loss of appetite is one of its first symptoms. Strange, isn't it? But the more the child needs food, it seems the less he desires. One of the best things you can do for a malnourished child is to give him a glass of Horlick's Malted Milk in the middle of the afternoon and at meals, too, if desired. You will find that as the child takes advantage of the nourishment in Horlick's, his appetite will gradually improve and he will begin to put on weight. Nourishment from the grains is added to the nourishment of whole milk, and the child receives many essential food elements that often are lacking or partially missing from his diet.

Try this famous food-drink which physicians have prescribed for fifty years.

Use Horlick's for results

HORLICK'S MALTED MILK CORP.
Dept. H-18, Racine, Wis.
Please send me.....weight charts for pre-school children and.....charts for school children for recording by a graph the weight progress of individual children.
.....
.....
.....

1931 ACCIDENT STATISTICS SHOW SLIGHT REDUCTION

The following data on accidents in 1931 have recently been released by the National Safety Council:

1. Accidents last year killed 97,000 persons—2,000 less than in 1930; this is the first reduction since 1922.
2. Motor vehicle deaths numbered 33,500; the death rate was six times as high as in 1913.
3. Accidents are the second most important cause of death among men; heart disease is the first.
4. Occupational death rates in insurance experience declined 31 per cent from 1912 to 1931.
5. Industrial plants have reduced employee injury frequency rates 38 per cent in two years and severity rates, 19 per cent in two years.
6. One sixth of cuts and lacerations resulting from employee accidents become infected.
7. Twenty-seven states increased motor vehicle fatalities from 1930 to 1931. Nevada had the highest death rate; California was second.
8. Commercial vehicles continue to improve accident experience; private drivers continue to become worse.
9. Railway grade crossing accidents declined 10 per cent; 30 per cent from 1928.
10. States with drivers' license laws continue better than the remainder of the country in motor vehicle death rate.
11. Drowning death rate was 7 per cent higher in 1930 than in 1920; 32 per cent lower than in 1910.
12. A new all-time safety record for steam railways was made in 1931; it shows the lowest death total since records were started and a 27 per cent reduction since 1920.
13. Death rate for miscellaneous flying was five times as high as for scheduled air transports.
14. Automobile death rates for school children increased only 4 per cent since 1922; all ages increased 98 per cent.

DIPHTHERIA ON DECREASE IN DETROIT

In Detroit, diphtheria is far below the level of any previous year. At the time the health report from the department of health of that city was released, there were but 8 cases under quarantine in the entire city. In 1931 on the same day there were 25 cases; in 1930, 32; in 1929, 86, and in 1928 there were 92 cases under quarantine. This definite decrease represents the direct results of the diphtheria prevention work of the last few years.

THIS TAB *protects* **THE PURITY OF BABY'S FOOD**

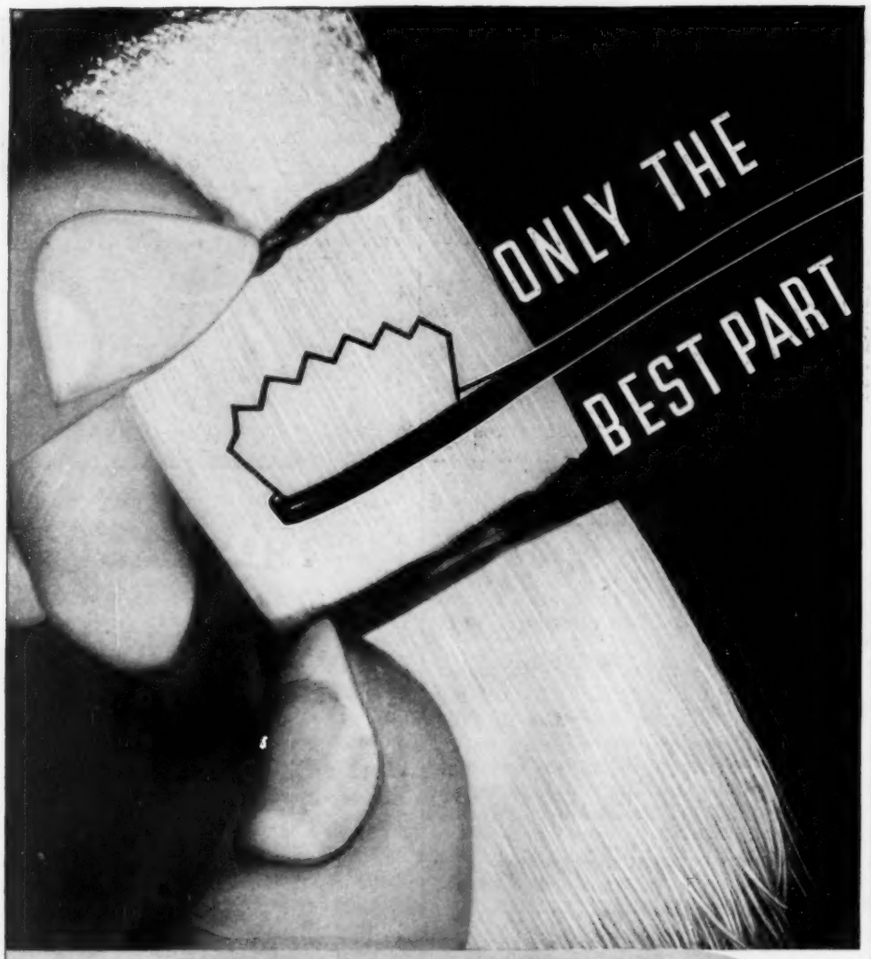
WITH this new Hygeia Nipple, your fingers need never touch the sterilized inside surface of the nipple. Just grasp the tab and slip the nipple on or off in a moment!

This new nipple is just one of the sanitary features of the famous Hygeia Nurser . . . the Nurser endorsed by nurses and physicians. Used in more than 2000 hospitals. The wide-mouthed bottle is easily cleaned, easily sterilized, easily filled. The Hygeia Nipple is shaped like mother's breast.

GUARANTEE: Each Hygeia Cell is guaranteed to withstand all temperature changes encountered in its regular use. Any defective Cell will be promptly replaced.

Hygeia Nursing Bottle Co.
Buffalo, N. Y.

Hygeia
THE SAFE NURSING BOTTLE



of the best bristles

● Why the longer, active life of Tek Bristles? The answer is: Tek Bristles are laboratory-selected from world markets. The finest bristles for specific tooth brush use. And even from these, Tek uses only the small choice section near the base. Strong, springy, sterilized, Tek's bristles are scientifically spaced and shaped for complete tooth-cleaning. Better Bristles, Better Shape, yet Tek costs no more than old-fashioned brushes. Cellophane-sealed for your protection and guaranteed. Tek 50¢; Tek Jr. for children or for dainty mouths, 35¢ . . . . . *Your druggist is more than a merchant—try the drug store first.*

Tek
the modern
TOOTH BRUSH

Johnson & Johnson
NEW BRUNSWICK NEW JERSEY

CRIPPLED CHILD NEEDS POWERS DIRECTED TO LEARNING

The world is not divided between the normal and the handicapped. There should be a definite attempt to prepare children as adequately as possible for what lies before them. The board of health bulletin of Middletown, N. Y., presents five points on this subject for worthy consideration.

1. The crippled child, with other handicapped children, does not want to, and should not be led toward receiving sympathy.

2. In facing the realities of life the only intelligent procedure is slowly but surely to forget that which is closed and concentrate on that which the individual has within his power to do. Those dealing with the handicapped child can make him forget his difficulties if they help him to direct his powers.

3. In dealing with the world, train the handicapped child to poised recognition of the facts regarding his limitations. Gliding over things, considering certain subjects as unmentionable, pretending—all such behavior has the effect of holding in the foreground of consciousness the very topics that should be disposed of.

4. Do not underestimate what the handicapped child can do.

5. For the more reflective of our handicapped children, it may be well to develop a philosophy of the relative importance of things, leading to a recognition of the fact that the world has few perfectly normal persons. Normality is itself a shifting conception.

NEW FACES FOR OLD FOODS

Some of the old foods for which appreciation has been lacking at the dinner table are now being championed because of their distinctive health values. The wrinkled prune has been the source of many a boarding-house ditty, but it ranks higher than any fruits in vitamin A and has a high iron content. Green peppers are endowed with many more units of vitamin C than is any other food. Tomatoes too are high in vitamin C content and are furthermore a source of vitamin A. The alkaline properties of potatoes should not be overlooked. Parsley contains a wealth of vitamin C, yet too often it functions merely as a garnish. Parsley, when chopped over vegetables, soups or salads, or used in fillings of sandwiches, adds a distinctive flavor, according to the *Western Hospital Review.*

OBSERVE THESE RULES IN DRIVING

Now that the summer driving season is here it might be well to brush up on some fundamental rules of traffic, in the interest of greater highway safety throughout the coming months. Observe the following rules, says the National Safety Council, and the chances are you will not have any smashups:

1. Drive on the right side of the street and do not crowd the center.
2. Pass traffic going in the same direction always on the left side. Be sure the road is clear before attempting to pass.
3. At intersections the car approaching on the right has the right-of-way (unless certain traffic is given preference, as noted by road signs). Remember, however, that safety is more important than the right-of-way.
4. Observe all speed restrictions. Keep the car always under control so that in any emergency it can be stopped in time.
5. Make right turns from the extreme right lane, keeping close to the curb throughout the turn.
6. Make left turns from the inside lane (unless local restrictions provide otherwise).
7. Know signals for stopping, turning and pulling away from the curb. (They, too, vary in certain sections.)
8. Keep mechanical devices in good condition so that signals are flashed in braking.
9. Obey all signal lights and traffic signs. They are for your protection.
10. Always give the pedestrian every courtesy. He is entitled to safety regardless of rules of the road. There is no such thing as a right-of-way when human life is at stake.
11. Slow down for children.
12. Play fair and be courteous, and the chances are you will never have a smashup.

AVOID NEEDLESS HAZARDS

"Life cannot be made fool-proof," a bulletin of the Milwaukee health department states. It is not possible to eliminate from life all chance of danger. And who would care to! "To remove all danger from a child's life is to remove boating, swimming, hunting, skating, camping; it is taking out of his existence all the lure of adventure. We are not trying to eliminate all dangers from his life; we are trying to make him zestful enough of life to avoid the needless hazards and brave enough to face dangers when that seems best," the article concludes.

Now they *"scrap"* to wash their hands

—yet before they had to be dragged

A MONTH ago their mother would have said: "Impossible!" at the suggestion that Joan and Billy would ever wash up willingly!... How they hated soap! And how mother hated goading them into using it!

But look how they've *reformed!* Now their washing up is really *fun!* The credit goes to the Lifebuoy Wash-up Chart—with its challenging score card that makes washing hands thrilling as a game. Now these very same children vie with each other for the highest clean hands score.

Teaches vital health lesson

No more need this mother answer that eternal question: "Why must I wash my hands so often?" The Lifebuoy Chart explains why clearly. Its interesting pictured story tells how germs wait to attack us on everything we touch. It explains how washing often—*always before meals*—with a hygienic soap such as Lifebuoy is the best weapon against this health menace.

Lifebuoy's big coral-red cake whips up loads of creamy lather that not only removes dirt, but *germs,* as well. The Life Extension Institute says 27 germ diseases may be spread by hands!

Keeps complexions young

Mother uses Lifebuoy to keep her complexion clear, young, glowing. Protects against "B.O." (*body odor*). Its *extra-clean,* quickly-vanishing scent tells you Lifebuoy is no ordinary soap. It deodorizes as it cleanses—effectively stops "B.O."

FREE: Take a rest from the job of scolding hands clean. Let Lifebuoy do it. Simply fill out and mail coupon below for free Wash-up Chart and trial size cake of Lifebuoy for each of your children. Watch the magic it works on their hands.

LIFEBUOY

HEALTH SOAP

for face, hands, bath

free

LEVER BROTHERS CO., Dept. 3711, Cambridge, Mass.

Please send me, free, Lifebuoy trial cakes and "Wash-up" Charts for my.....children.

Name.....

Address.....

City..... *State*.....

DENTAL EXAMINATIONS AS RELATED TO LIFE INSURANCE

Many persons who have passed health examinations for insurance and have seemed at the time to be in fairly good health have died two or three years later from severe illness. Curiously the source of the trouble in many instances lay in pyorrhea alveolaris, an oral disease that can affect and poison any part of a person's body. The need for dental examination in conjunction with medical examination for life insurance prospects is obvious.

It is a fallacious and all too common notion that the gastric secretion is sufficiently antiseptic to kill all the bacteria reaching the stomach from the mouth. The same type of streptococcus that has been found in the pyorrheal pus has been also isolated from the feces of persons suffering from the disease.

In addition, what may be a slight infection in the mouth may produce great harm in another part of the system because of the rapidity with which germs multiply.

Dr. Rudolph N. Gordon, a dentist, writing in the *Florida Dental Journal* states his belief that in a large number of cases the origin of appendicitis could be traced to infection from pyorrhea.

SAFETY IS AVIATION'S MOST VALUABLE ASSET

The sky is the limit in regard to safety in aviation. Frequent inspection of planes and men is only a small part of the necessary accident prevention. To attain maximum safety, one must have qualified operators and the highest standards applied by ground personnel.

Night flying by air transport companies is becoming increasingly important. Therefore the proper illumination of strategic airways has been vigorously pressed by the Department of Commerce, and companies have expended considerable effort to increase the efficiency of night flying. There are approximately 20,000 miles of lighted airlines in this country at the present time, and on the airmail or mail passenger routes, intermediate airports or emergency landing fields are established at intervals of from 30 to 50 miles. Radio has recently played an important part in aviation safety. Instrument flying has made considerable progress in its development to make flying more safe. "Safety is aviation's most valuable asset," according to *Public Safety.*

New! MAIDEN FORM'S

Short NURSING BANDEAU

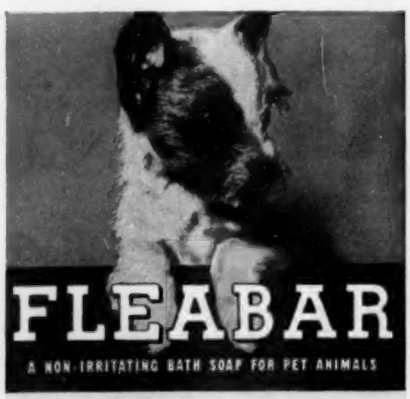
For mothers who require a nursing brassiere but do not need diaphragm control—this bandeau is scientifically designed to give *perfect* bust support, yet to allow complete freedom below. Of porous, flesh-colored cotton mesh, it has breast shields of rubber and absorbent fabric with narrow tape holders for pads of sanitary gauze. The center fronts unfasten at the shoulder straps, for easy access to the breasts. No. 382—$1.00.

If your dealer cannot supply you, write

MAIDEN FORM BRASSIERE CO., Inc.
245 Fifth Avenue, New York

WHAT TO GIVE

Shop through the advertising pages of HYGEIA. A little head work may save a lot of footwork.



● A neutral, vegetable oil soap containing pyrethrum, an effective insecticide against fleas and lice. Contains nothing to irritate or dry animals' skin, or destroy lustre of coat. Scented with pine oil. Mail coupon NOW for sample.

ABBOTT LABORATORIES
North Chicago, Illinois

Send free sample of Fleabar

To_____

Address_____

AVOID ANY UNNECESSARY FALLS BY WATCHING YOUR STEP

"When you see what the 'Safety' campaigns in the schools have accomplished in reducing the number of fatal accidents among children of school age, you wish that something equally effective could be done to reduce the number of fatal accidents that occur in the older age groups," Dr. R. H. Riley, director of the state department of health of Maryland, said in commenting on the report recently issued by the National Safety Council.

"The safety education program in the schools became national in scope about 1924. From 1922 to 1930—the latest year for which such comparisons are available—the general death rate for accidents for people at all ages, increased 16 per cent. During the same period, the general rate for accidents for children from 5 to 14 decreased 11 per cent, and there is good reason to believe that a large part of this may be attributed to the habit of taking care, that is being developed among children by the safety drills.

"We have had much the same experience in Maryland as that reported by other states. Approximately one death out of every five due to accidents was caused by a fall, either indoors or out-of-doors. Since the greater number of injuries, fatal and otherwise, of this sort occurred among persons who have reached middle age, or who were older, it is apparent that the advice particularly needed by all in that age group is—'watch your step.'"

EVENING EMPLOYMENT OF CHILDREN

Although some newspapers seriously consider the health and welfare of the newsboys in their employment, many large and small newspapers throughout the country are guilty of allowing newspaper distribution at night by young school children. Sometimes these boys are younger than 12 years, which makes them ineligible even for daytime selling in the state of New York. It is far more desirable for the circulation managers of newspapers to adopt a policy which will consider the health of the child than to control the situation by law; however, until such an attitude is taken by the newspapers themselves, a law which would prohibit all persons from aiding children in obtaining papers for night distribution and legislation providing recreation for children taken off the streets through law enforcement are advocated by *The American Child.*

IS YOUR SCHOOL CHILD PREPARED FOR STRAIN?

The school year is a long one, and now that the pupils have settled down to the work at hand those parents who have not sent their children to the physician for a complete examination should by all means do so immediately. The best time of the year for such an examination is at the beginning of the school year, but it is not too late to turn back the hand of time for just a month or two.

Defects of hearing, vision, teeth and posture, diseased tonsils or adenoids, or malnutrition may be present and should be corrected.

The necessity of mingling with other children demands the precaution that vaccination and immunization offer against communicable diseases. Parents can be sure that their children cannot contract diphtheria and smallpox if they are immunized against these diseases. The process is easy and painless, and the value of such protection is out of all proportion to the small outlay of money necessary to procure it.

Take these precautions for the health of the child, is the warning and suggestion of the U. S. Public Health Service.

BOY AND GIRL STUDENTS ORGANIZE CAR CLUBS

Boys and girls of 15 should not drive automobiles, but the fun provided by learning about cars through an automobile club has manifested itself in the schools of Providence, R. I.

"Stopping a car at 40 miles an hour means a thinking distance of 45 feet," was the statement of a serious-minded 15 year old school girl as she addressed fellow members of her club. Thinking distance was something new. A car traveling at the rate of 20 miles an hour requires 22 feet of thinking and 18 feet more for braking before the car will come to a complete stop.

The children of the automobile club could put to shame many an adult with years of driving experience.

The clubs also study the mechanics of machinery. Occasionally a movie on some relative subject is presented to them. The meetings are weekly, and at the end of the term the students are given the written test required of those seeking a driver's license in the state of Rhode Island. Florence Nelson presents "Good Drivers in the Making" to readers of *Safety Education.*

DON'T WORRY ABOUT ME! I'VE REMEMBERED EVERYTHING – INCLUDING A LAST CHECK UP WITH THE DENTIST AND ENOUGH COLGATE'S TO SEE ME THROUGH

The quarter saved on every tube of Colgate's means six francs to me in Paris

I'm willing to pay what I have to for the best—but not one cent more. So—since I like the taste of Colgate's—since it cleans my teeth—since my dentist says there just isn't anything better—and since it costs me only a quarter—I'm using Colgate's, instead of some fifty-cent toothpaste with a lot of fancy claims. Father says, the way to judge value is by what you get—not by what you are promised. That's been his rule all through his business life. And that, I suppose, is why he can afford to send me to Europe

This seal signifies that the composition of the product has been submitted to the Council and that the claims have been found acceptable to the Council.

ACCEPTED AMERICAN DENTAL ASSOCIATION

DANGEROUS TOYS BLIND MANY CHILDREN EACH YEAR

Absolute prohibition of the manufacture and sale of dangerous toys, such as air rifles, cap pistols, slingshots bows and arrows, darts, toy guns, other devices for projecting missiles, firecrackers and torpedoes, is strongly advocated by the National Society for the Prevention of Blindness in a report of a recent study of eye accidents in child play made by that society.

The report shows that there are now in schools for the blind more than 500 children who have lost their sight as a result of accidents, chiefly through the use of fireworks, air rifles and other weapons.

Statistics showed that while more than 100 cities in the United States have some sort of ordinance restricting the manufacture, sale or use of air rifles and other weapons as children's toys, the vast majority of these laws either are inadequate or are not properly enforced.

The society has prepared a model ordinance dealing with such hazards; this will be sent to the legislators of every state and large city in the country.

DEVELOPING THE NORMAL IN CHILDREN

To develop a normal child, one must consider individual differences. The Massachusetts Society for Mental Hygiene offers the following suggestions to parents:

Give him playmates of his own age and ability.

When he asks for information, answer him truthfully and explain in words he can understand.

Read to him and tell him stories and encourage him to do the same.

Teach him to use his hands and his body as well as his head.

Encourage him to make things. Give him tools and materials and a place where he will not be disturbed.

Begin early to give him small responsibilities and, when possible, let him make decisions and take the consequences.

However, do not show off a child in company, do not make fun of his reasoning and do not hurry a slow child.

SWIMMERS' SAFETY PLEDGE

The swimmers' safety pledge by Marie W. Bishop which was reprinted in the August issue of HYGEIA is a copyrighted pledge. The article enumerated fifteen helpful points in avoiding danger while in the water.

DOCTORS KNOW

and they say "PYREX NURSING BOTTLES"

SAFETY for your baby is first reason for their choice. They know that Pyrex Brand Nursing Bottles are practically immune to breakage from heat or cold. They protect your baby against the dangers of bottles cracked or broken in heating or in sterilizing.

And you'll enjoy using "Pyrex" Nursing Bottles because they're comfortable to hold, easy to clean, and plainly marked for quick, accurate measuring.

Two sizes . . . 8-oz. with narrow neck or wide mouth, 25¢; and new 4-oz., narrow neck, 15¢.

"Pyrex" is the registered trade-mark of Corning Glass Works, Corning, N. Y. and indicates their brand of resistant glass. These prices for the U. S. only.

A Support for CHILDREN

Combined shoulder, abdomen and back control, regulated by the Camp Patented Adjustment are provided by this Camp Support (No. 131). In size it is proportioned to age and can be worn with maximum comfort. Endorsed by leading physicians.

Write for special information.

CAMP

Physiological Supports

S. H. CAMP AND COMPANY
Manufacturers, JACKSON, MICHIGAN
Chicago 1056 Merchandise Mart
New York 330 Fifth Avenue

Mention HYGEIA when writing to Advertisers

STIMULATING APPETITE IN CHILD REQUIRES PATIENCE

Tact, diplomacy and infinite patience are required in stimulating children's appetites; for this reason many mothers succeed poorly.

There may be two reasons for the child's refusal to eat: the cause may be physical or it may be psychic.

Loss of appetite precedes all other symptoms of the common cold by at least a day, and it is the first symptom of acute and chronic infections. By forcing the child to take food when he is not physically fit, the parent develops in him an aversion to that food. Teething, gastrointestinal disturbances and infections, especially those of the upper respiratory tract, are other physical causes.

The child's refusal to eat is in some instances associated with the idea of attracting attention, of being fussed over. In dealing with this problem, a few "don'ts" are more important than the "do's." Don't discuss the child's food dislikes and likes before him. Avoid comparing his appetite with other children's. Never allow the child to see that it disturbs the parent when he refuses to eat. Do not give him any food whatever between meals. On no account force a child to eat, an article in *The Trained Nurse and Hospital Review* points out.

CURE OF SOCIAL DISEASE INVOLVES MANY PERSONS

Success in the treatment of social diseases lies in the cooperation of the physician, the public health nurse and the infected person. The physician is encouraged on diagnosing a case to make every effort possible to find out from the patient the source of his infection, according to a recent report emanating from the New York state department of health. Not only are the physicians asked to determine the source of infection but they are also requested to impress the patient with the necessity of having all contacts examined. If it is found that these contacts are infected they should submit to treatment. Many persons report voluntarily.

It's easy to think of the underprivileged child as one that lives down by the railroad tracks; but not so easy to conceive of him as living on the boulevard. As a matter of fact, a great many undernourished and mistreated children do actually live in beautiful homes with evidence of wealth on every side.—*Dr. Thurman B. Rice.*

INDUSTRIAL ACCIDENTS HAVE DECREASED CONSIDERABLY

During the past two years, 4,000 industrial members of the National Safety Council have reduced their accident frequency rate 39 per cent. As industrial frequency rates are established in accordance with the number of man-hours worked, it can be seen that the economic problem had nothing to do with this remarkable achievement.

These concerns represent twenty-eight separate industries, or practically all industrial lines.

There were 17,000 industrial fatalities in the country during 1931, according to "Accident Facts" recently published by the National Safety Council. Approximately 3,000 of these occurred in manufacturing plants. The others occurred in mines, railroads, construction work, marine operations, farms and other fields not definitely a part of ordinary manufacturing.

The handling of objects, use of machinery, falls and falling objects were leading industrial accident causes. Resulting cuts and lacerations constituted about 30 per cent of all the industrial accidents.

The cement industry, which has made the best showing in connection with accident frequency during the past two years, again led. Printing and publishing made the best record from the standpoint of accident severity. The frequency rate means the number of lost time injuries per million man-hours worked, while severity represents the number of days lost as result of such injuries, per thousand man-hours exposure.

PUBLIC IS SLOW TO APPLY MEDICAL RESEARCH

Cooperation is a magic power in most fields of endeavor, but nowhere is this more true than in matters of public health. If the world is to profit by the accumulation of scientific knowledge which has resulted from brilliant research, laymen must cast aside superstitions, notions and quackery. In modern years, research has far outstripped application. In knowledge of nutrition and the control of disease, more sound health knowledge has been accumulated than the public has as yet been able to assimilate, Dr. G. N. Bilby of the department of public health of the state of Oklahoma explains.

Said the flu germ to the pneumonia germ: "I go to prepare a place for thee so that where I am ye may be also."—*Texas Outlook.*

FOR 53 YEARS
ALWAYS DEPENDABLE

and now...two new important features

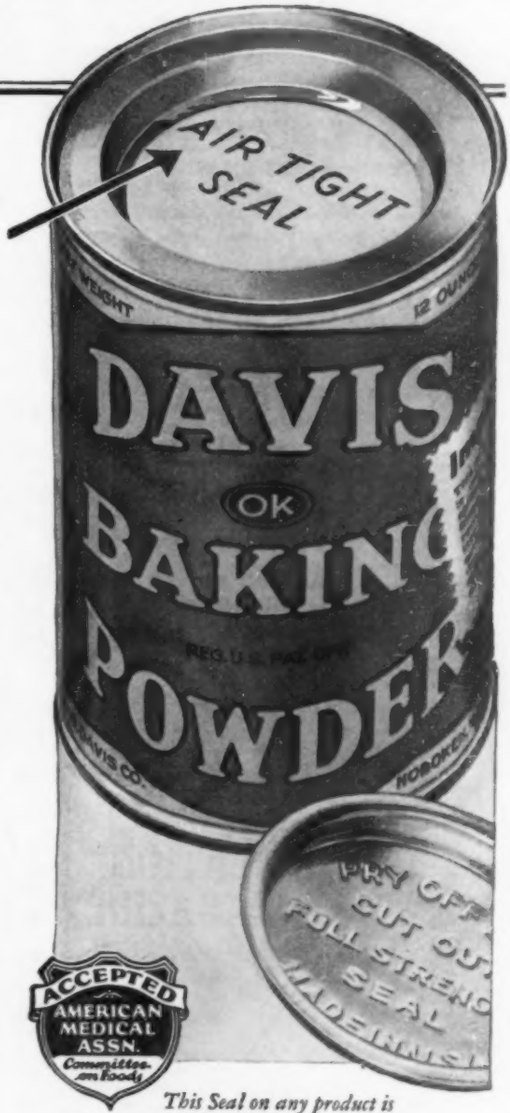
FIRST baking powder to be packed in new full-strength, air-tight, easy-to-open can

No air or moisture can penetrate to destroy the leavening strength of Davis Baking Powder. Its freshness is *sealed in!* In Davis you get *all* the leavening strength you pay for. It's *always* sure-raising — *always* dependable.

Receives the Seal of Acceptance of the American Medical Association

(Committee on Foods)

This is your *guarantee* of Davis purity and wholesomeness. The acceptance of Davis Baking Powder by the American Medical Association Committee on Foods means that the purity and wholesomeness of Davis Baking Powder are recognized by competent authority.



This Seal on any product is your assurance of its purity and the truth of its advertising claims. Davis Baking Powder has been awarded this distinction.

Listen to the Davis Mystery Chef every Tuesday and Thursday morning at 10:00 o'clock (Eastern Standard Time) over the Red Network of the National Broadcasting Co. Send for a free copy of the Mystery Chef's Little Book of Excellent Recipes and Cooking Tips.

Baby's Tender Skin

IN THE MATERNITY WARDS of more than 2000 leading hospitals, Baby-San is used every day to bathe the tender skins of new born babies. Baby-San, formerly sold only to hospitals, is now available for home use. Secure a bottle of it at once—use it for baby's bath—note the delicate film of olive oil it leaves on baby's skin. Soothing as lotion—the only soap of its kind made. Recommended by physicians and nurses.

Write for Folder
"Care of Baby's Skin"

And ask for Baby-San in the Infants' Wear Section of your department store. If they do not have Baby-San, they can secure it quickly.

Distributors
SNUGGLE RUG COMPANY
Dept. 1132-BH Goshen, Indiana

Baby-San is made by:
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CONCISE—AUTHORITATIVE—MATTER-OF-FACT
—COVERS EVERYTHING
"A Child is to be Born"
Reprinted for expectant mothers from the series in "Hygeia"
Symptoms—Exercise Diet—Clothing 15c American Medical Assn. 535 N. Dearborn St., Chicago

SAFETY EDUCATION MAGAZINE
For teachers and pupils
$1.00 a Year
Supplies you with safety material throughout the school year — lesson plans, stories, plays, informational articles and colored poster supplement.
ONE PARK AVE., NEW YORK CITY

GOOD OR POOR HEALTH IS NOT DETERMINED BY SUPERSTITIONS

Unfounded superstitions, based on ignorance, are often really harmful. If a person walks under a ladder, the only ill luck he can have is to have the ladder fall on him, and that is bad enough; but the general belief that baby teeth or the first set of teeth need no attention just because they are temporary teeth is wrong and harmful. Pain, systemic poisoning and difficulty in chewing food are only three of the ways in which the child is handicapped if proper care is not given to the first set of teeth.

The belief that it is dangerous for an expectant mother to have her teeth attended to is erroneous. In fact the truth of the matter is that dental treatment is essential to the health of both mother and child, when teeth are decayed. Every prospective mother should make dental care a part of her routine care during this period.

A third superstition, which is less harmful than the preceding but not less well founded, is that the child who is born with one or more well formed teeth is destined for either good or bad fortune. No mother needs to worry about this supposition. Fully formed teeth in the mouth of the new-born child signify nothing more than a probable excessive activity on Nature's part in the formation of the child's dental apparatus.

Follow facts, not unfounded superstitions, is the advice of Dr. Richard C. Leonard of the department of health of the state of Maryland.

USE OF LEISURE TIME

Leisure is not necessarily a good thing. Its value depends on the use to which it is put. The person without hobbies has to kill time by profitless diversions or by gossiping.

George Eastman was a clerk and studied photography during his leisure time. The Wright Brothers conducted a bicycle shop and studied flying during their leisure. The greatest authority on snow flakes is not a scientist but a man named Bentley in Jericho, Vt. He has photographed more than 4,000 patterns and sold them to jewelers, lace makers and wall-paper manufacturers.

A recreational program rather than a gymnastic program is the need of physical education, William A. Wetzel comments in *Recreation.*

The best toothpaste or toothpowder is elbow grease.—*American Dental Association.*

Make Money Selling HYGEIA

One man in a few spare moments when not engaged in his regular business earned HYGEIA commissions in 3 months, amounting to more than $130.00.

Another individual decided to act as HYGEIA representative and soon secured a group order of 24 subscriptions from the school superintendent of his city.

You can add to your present income just as easily, by selling HYGEIA in your locality, because almost every person is a prospect for The Health Magazine. You can sell HYGEIA not only to schools and to teachers, but to doctors, dentists, business men, to health centers, clinics, clubs, Y. M. C. A.'s, and to your friends of all ages. Your commissions from HYGEIA will net you a steady income or extra money for luxuries, depending upon the amount of time you devote to selling. As the first step toward this pleasant way of earning money, mail the coupon at once, for full information.

Sell HYGEIA
in your
Spare Moments

American Medical Association,
535 N. Dearborn St., Chicago.

I am interested in your offer to HYGEIA representatives. Please send me full details about it.

Name.....

Address.....

STRYCHNINE POISONING TAKES WEEKLY TOLL

Knowledge as to how to proceed in the treatment of strychnine poisoning is indeed valuable since official statistics show that more than three deaths a week occur from this source. The treatment of strychnine poisoning, as outlined in a recent editorial of *The Journal of the American Medical Association,* includes chemical antidotes, evacuation of the stomach and sedatives.

Since the strychnine spasms are provoked by anything that would startle a normal person, all sudden stimuli, however slight, must be absolutely avoided.

Chemical antidotes are useful only against the unabsorbed poison and chiefly against that which has not yet passed the pylorus.

If the patient already has spasms or is even hypersensitive, sedatives should be administered freely. They ease the anxiety of the patient and suppress the painful spasms, and if they are used with intelligence and courage they diminish the fatality to a greater degree than is commonly realized.

Many of the deaths caused by strychnine result from accidental swallowing of poison by children. There is only one solution to this problem, and that is to keep all poisonous substances out of the reach of small children. To the child, strychnine pills look like candy; only the parent can avert poisoning and possible death in instances of this kind.

ADJUST LIFE TO FIND NEW VALUES DEPRESSION OFFERS

There is no denying that these are trying times, but there is little use in letting the depression depress one quite beyond logical limits. True to the fate of all dictatorships, the dollar ignominiously was toppled from its throne in 1929.

But fresh air is still to be had for the taking. Good food is to be purchased at ridiculously low prices. The opportunities for sleep and relaxation are even greater than formerly. Exercise does not demand gold in exchange. Pure water is free for the taking. The sun is still shining as brilliantly as ever. And health, the greatest of life's blessings, can in most instances be had or kept by the daily exercise of reasonable intelligence.

In other words, those few things that have changed require a person to make adjustment and to accept the world as it is today, according to *Pennsylvania's Health.*

Dangerous for BABY to be uncovered!

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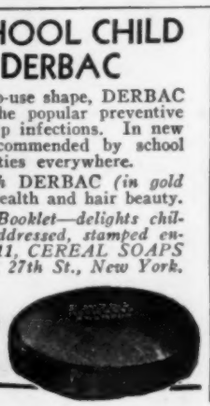

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